





# GREAT WHEAL BUSY UNITED MINING COMPANY (LIMITED), KENWYN, CORNWALL.

In 6000 shares of £10 each, with power to increase. Deposit 50s. per share, and the remainder by calls of 25s. per share, at intervals of not less than six months. To be worked under the "LIMITED LIABILITY ACT."

**DIRECTORS:**  
GUSTAVUS EDWARD BECKERS, Esq., Warwick-road, Maida-hill, London.  
STEPHEN BROAD, Esq., Peckham Rise, London.  
JAMES CORRIE, Esq., Deptford, Kent.  
RICHARD HUMPHREYS, Esq., 72, Wimpole-street, Cavendish-square.  
RICHARD HALLETT, Esq., Woodford, Essex.  
ROBERT OFFORD, Esq., 53, Wigmore-street, Cavendish-square.  
JOHN OFFORD, Esq., 4, Auburn-street, Plymouth.  
C. R. READ, Esq., 98, Gloucester-terrace, Hyde-park.

**BANKERS:** Messrs. Martin and Co., 68, Lombard-street.  
**BROKER:** Joseph Davis, Esq., 75, Old Broad-street.  
**SOLICITORS:** Messrs. Wire and Child, 9, St. Swin's-lane, City.  
**ENGINEERS:** Sims and Sons, Redruth.  
**OFFICES:**—47, OLD BROAD STREET, LONDON.

**PROSPECTUS OF GREAT WHEAL BUSY UNITED MINES,**  
Embracing Wheal Busy, Wheal Daniel, South Hallenbeagle, Old Hallenbeagle, North or New Hallenbeagle Mines, and an area of ground one and a half mile long by one mile wide, situated in Kenwyn, Cornwall, 1-2-4th; term 21 years, and abutting on Wheal Union, Faldice, the Great Consols, and the United Mines on the north, and Treskerby and North Downs on the west.

These mines contain upwards of 20 copper and tin lodes, and have paid immense profits to the adventurers. There is an adit brought into the sett from 40 to 50 fms. deep from surface, and there are engine and other shafts sunk to a depth in Wheal Busy of 100 fms. below the adit, at Old and New Hallenbeagle to the 60 and 70 fms. levels, and in Wheal Daniel to about the 40 fms. level. The lodes are also driven on in the 10, 20, 30, 40, 50, and 60 fms. levels in the Hallenbeagle Mines, and in Wheal Busy the levels are extended to the 100 fms. level below the adit. These mines possess rich copper and tin lodes when the operations ceased, for particulars of which see the reports of the several mine agents.

Gentlemen conversant with mining matters will see that these mines, comparatively speaking, are in their infancy. Some thousands of pounds sterling have been expended in introductory works, in bringing in the adits, sinking shafts, and driving levels on the lodes, as stated above, through strata of mineral ground not surpassed in any mines in the world. It only remains to draw out the water, which can be effected in a few months, that the rich courses of copper and tin ores, left when last these mines were wrought, may at once be raised to the surface, and immediate and handsome returns will be made.

It is the united opinion of persons competent to speak on these mines, that when they shall have been set to work, the immense profits that will accrue therefrom will place them in a position second to none in the county of Cornwall, or elsewhere.

In the report of the late engineer of the above mines, he states that the water drawn from Wheal Busy, on an average for 12 months, was 478 gallons per minute; and that an 85-inch engine will be ample not only to drain the mine, but will be sufficient to prosecute it to a much greater depth; and that two 70-hp. engines, one on the old and the other on the new Hallenbeagle, will be sufficient for every purpose.

It is thought that much less than £200,000 will be ample to put up all proper machinery, drain the mines to the bottom, and render them dividend-paying; and that when so done, they will pay 30 per cent. on the capital required. It may be considered, therefore, that there is no speculation in the concern, but a pure investment of capital; for it will be seen, from the several reports given by the mine agents, that there is upwards of £500,000 worth of copper and tin ores already discovered in the mines, to take away.

The operations in Wheal Busy commenced in 1810, and ceased in 1828, during which time the lord received as dues, at a 20th dish, £17,192 19s. 6d., notwithstanding the very inefficient way in which the operations were carried on, and the low standard of copper and tin, being more than 20 per cent. less than the present price.

There were raised and sold from Wheal Busy alone the last 14 months the engine was at work 5311 tons of copper ore, which realised £21,170 5s. 2d. The return of tin ore was one ton of tin to every 20 tons of copper ore; making the returns of tin 265 tons, at £40 per ton, realising £10,600. And the first 12 months after the engine ceased working there were sold from Wheal Busy alone 2848 tons of copper ore, which realised £10,731 4s. 6d.; making the returns of tin 142 tons, at £40 per ton, £5680. This does not show any want of ores.

The West Cornwall Railway runs through the sett from east to west. The mines are within four miles of Portreath and six miles of Devon, and connected with both sea ports by a tram-road, which runs through the sett.

The inducement to work these shallow mines is the improvement in machinery of all descriptions, the high standard of copper and tin, and last, though not the least, the great economy and science displayed in all mining operations in the present day over the time when these mines were worked.

In the last working of Wheal Busy the adventurers paid 36s. per 100 kibbles to raise the stuff to surface; the engineer above referred to states the same quantity of stuff he would now engage to raise to the surface for 2s. 6d. They also paid 9s. per 100 kibbles for filling and landing, and 10s. per ton for dressing. The expense was so great that thousands of tons of copper and tin ores are now broken and lying underground in the excavation in the mine, which can be raised to the surface and made marketable for less than one-half the present worth.

Capt. Johns says: "There are hundreds of thousands of tons of copper and tin ores on Wheal Busy already broken, nothing to do but send up and dress; and that there are immense quantities of copper and tin ores already discovered, and now standing in sight on the mine to take away; and when the mines are put in good course of working, they will be second to no mine in Cornwall."

Capt. Skewis, of New Hallenbeagle, says: "There are two courses of copper ores in the back and bottom of the 60 fathom level, east of shaft 20 fms. long, which will let at 2s. 6d. and 6s. in £1, and that there is a course of copper ore in the bottom of the 60 fms. level, west of shaft on the same lode 50 fms. long, which will produce 4 tons per fm., worth 11s. per cent., and will let at 1s. in £1, when dry. Capt. Paul Raby, of the Wheal Seton, says the same; they had 55 pitches working when the mine stopped, at tributes from 2s. 6d. to 13s. 4d."

Capt. Stephen Leach, of Wheal Seton, examined New Hallenbeagle several times; he says: "There is a course of copper ore in the bottom of the 60 fms. level 45 fms. long, producing 4 tons per fathom, worth full £12 per ton; and there are two other courses of copper ore east of the same shaft, in the 60 fms. level, each 20 fms. long, and will let at 3s. in £1."

Mr. Rosewell says: "There is a course of copper ores in South Hallenbeagle, on Reid's lode, in the 40 fms. level, 10 fms. long, worth £30 per fm.; and in the 30 fms. level, on the same lode, there is a course of ores for 60 fms. long, producing 1½ ton per fm., worth £3 per ton—worth £13 10s. per fm., the ground can be worked at 60s. per fm.; and there is a course of copper ores in the bottom of the 30, on Oat's lode, for 60 fms. long, will produce 1½ ton per fm., worth £11 per ton, or £16 per fm.; the ground can be worked for 60s. per fm.; and the lodes in the Old Hallenbeagle underlie south, and the lodes in South Hallenbeagle north; they will join in the 110, where the ore will be immense."

Mr. James Nichol says: "There is enough copper and tinstuff broken in Wheal Busy to pay for the erection of all proper machinery; and there is a course of ores in the 90, 12 men can raise 100 tons per week."

Mr. Richard Nichol says: "He worked in Wheal Busy when the mine stopped working; that the ore was abundant throughout the mine; and in the 60, in the western part of the mine, a rich lode was cut in the side; six men raised 100 tons of ore, which realised £5 per ton, at 105 standard; and that the same lode was cut in the 60, east of Cheynoweth's shaft, where the ore were of an extraordinary size and quality; that Ralph Blight, &c., worked on it until the water rose up and drove them."

Capt. William Martin, Stithians, the greatest mining authority in Cornwall, says: "He examined the above mine in 1827 several times, and he examined Wheal Busy three weeks before she ceased working. There is enough copper and tin ores already broken in Wheal Busy to pay the expenses of the mine for years; and that there are several courses of copper ore worth from £20 to £240 per fm.; and that there is a course of copper ores in Old Hallenbeagle Mine, in the 60, 50 fms. long, worth £22 per fm. The ore is so immense in these mines that they will pay at least £24,000 per annum profits, and that for 20 years."

The object of the company is to effectually work these mines. More than one-half of the shares are already taken, and the remaining shares will be placed into good hands. Applications for the same may be made either to the broker in London, or to the manager, Mr. J. B. Passon, of Camborne, Cornwall.

## FORM OF APPLICATION FOR SHARES.

To the Directors of Great Wheal Busy United Mining Company (Limited).  
GENTLEMEN,—I request you will allot me shares in this company; and in consideration thereof, I herewith send the deposit or first call, as named in the prospectus, and will sign the Deed of Settlement when called upon so to do.

Date .....  
Name in full .....  
Residence .....  
Place of business .....  
Name of referee .....  
Profession .....

## THE MOST PRECIOUS DISCOVERY OF THE AGE!

**NO MORE RHEUMATISM!—THE PAUSILLIPPE LOTION.**  
For the SPEEDY CURE of acute Rheumatism, the most distressing Nervous Headache, Lumbago, Sciatica, Swollen Glands, Cramps, Rheumatic Pains in Almost every part of the body, and many other complaints, by a few outward and painless applications to the part affected. A couple of days, in most cases, will suffice to completely cure the sufferer.

The number of testimonials in the hands of the proprietors, as to the almost miraculous effect of this wonderful remedy, is incredible. The following are a few of those recently received:—

July 30, 1855.—GENTLEMEN: I have used the Pausillippe Lotion as a means of relief for rheumatism in the shoulder, and sciatica in the hip; my suffering, especially from rheumatism, was extremely acute, and I found myself completely relieved by applying the lotion morning and evening for three successive days. I had to take no internal medicine, or to observe any particular regimen, neither was it necessary during the time to abandon my ordinary avocation. I consider it due to you, and feel induced in the interest of suffering humanity, to authorise the publication of these lines.

F. T. PORTER, Magistrate, Head Office, Dublin Police.  
Victoria Park, Donegal, June 10, 1855.—GENTLEMEN: I feel extremely obliged to you for your valuable rheumatic lotion, which I applied three times only, as directed, to my arm, when I was completely relieved from the very severe rheumatic pains which I had suffered for three months, and which I feared had become chronic. I do trust this most valuable discovery may be made available to the public.—I am, &c.,

THOMAS WELSH, late Attorney-General of Australia.  
In bottles at 2s. 9d. and 4s. 6d., with ample directions for use.  
Sold in London by Messrs. Hoags, chemist, 35, Piccadilly, opposite St. James's Church; Colley and Co., 112, Chancery; E. D. SHIRLEY, 50, Chiswell-street; W. WILMOTT, 38, St. Margaret's-hill, Borough; in Dublin, by Messrs. Buxley and Evans, Sackville-street; in Australia, by Mr. HENRY L. DAVIS, Liverpool-street, Hobart Town; in America, by Mr. A. SEYMOUR, Baltimore-street, Baltimore; and wholesale and retail at 16, High-street, Aldgate, where all orders will be punctually attended to.

F. NIEMEYER and Co. will forward a box containing twelve bottles of both sizes of the Pausillippe Lotion, free of carriage, to any part of the kingdom, on receipt of a post-office order for £2 6s. 6d.

# MINING INVESTMENT COMPANY (LIMITED).

The nucleus of this company has been formed by a few private gentlemen interested in mines. The idea of its constitution originated with the present manager, in order to meet the great difficulties encountered by persons wishing to invest in mineral properties. It is well known that the large profits realised by mining are divided by persons obtaining secret information of discoveries and improvements, and by their agents in town. Cases constantly occur of the same shares being transferred many times in the course of a short period, involving the sacrifice of 20 per cent. of the capital for commission. By this company's arrangements, these sacrifices will be prevented, and the whole of the profit secured to the investor.

The originator of this company has been constantly applied to for advice by many clerical and gentlemen in town and country, and has recommended purchases which have afforded large profits. Being unable to continue so extensive a correspondence, he adopts this plan of meeting their necessities, and those of the numerous other persons similarly circumstanced. It is proposed:—

1. To purchase shares in dividend mines, or those approaching that position.
2. To avoid young and speculative mines, however tempting in appearance.
3. To lend cash for short periods, at 10 per cent., on good shares and safe terms.
4. To employ trustworthy and competent agents in the mining districts, to keep the directors fully informed of the state and prospects of certain mines by telegraph.
5. To be prepared at any moment to purchase valuable shares, which are often obtainable at less than the market price, because saving the seller the loss usually attendant on delay in settlement.
6. To sell shares when excitement has forced the price too high; and to buy when depression has produced the opposite effect.

The company to be formed in accordance with the new "Limited Liability Act." The shares to be 1000 each. The amount to be paid by two instalments of £50 each, on the 20th October and 1st January next.

The executive to consist of a manager, secretary, four directors, and country agents. The expenses to be kept down to the lowest possible level. No mining broker, or share dealer, to be eligible to be on the staff of the company. The meetings for general business and declaration of dividends to be held half-yearly.

The objects of this company having been carried out on a small scale by the projector and his friends, and found to produce 40 per cent. profit, and he having engaged to use his extensive acquaintance with mining affairs for its benefit, in addition to the experience of its directors and agents, there appears no reason why enough of the million sterling of profit annually made from mineral property should not be obtained by this company, so as to pay 20 per cent., and also leave a reserve fund.

Mine share purchasers will see that the intention of this company, wisely carried out, will form the long-desired connecting link between them and the mineral resources of this country, and constitute a medium through which their capital can safely and profitably flow.

Prospectuses, containing the names of directors and further details, will be ready for delivery shortly. Meanwhile, shares may be applied for to Messrs. Orson (Messrs. Orford and Co.), 79, West-street, Oxford-street, London. Applications to be accompanied by an order for £1 per share, that payment being considered the best reference.

## [PROSPECTUS.]

# MEAVY CONSOLS, NEAR TAVISTOCK, DEVON.

In 4000 shares,  
Of which 2637 are taken up, and the remaining 1363 are to be disposed of.  
Conducted on the "COST-BOOK SYSTEM."

This mine is situated in the Tavistock district, in the hills at the south-western boundary of the granite range of Dartmoor.  
From the reports, it will be seen that several lodes of more than ordinary promise run through the sett, which is very extensive, and can be worked by water-power to a great depth.

The estimated expense of fully proving the mine, in addition to the work already done, is £1467, to this add incidental expenses (say) £533, together £2000, which it is intended to raise by calls not exceeding 2s. 6d. per share, and at intervals of not less than three months.

The character and experience of the agents, whose reports are annexed, and the numerous list of local shareholders, including many of the best known mining agents in the Tavistock district, render any further comment or observation unnecessary.

The directors and officers of the company will be elected at the first general meeting of the shareholders, which will be convened as soon as the share list is complete. Applications for shares to be made: the reports of Captains John Price, Richard Williams, Alexander Barratt, and William Dobie, with plans and a list of shareholders, seen; and further information and forms of application, with terms of issue of shares, obtained; at the office, 98, Gracechurch-street, London.

**Meavy Consols, June 20, 1855.**—DEAR SIR: Having been requested to inspect the above-named mine, I beg to submit the following:—viz., That there are five known lodes traversing the sett, four of which are underlying north, and one south; all these lodes are deposited or embedded in a highly mineralised strata. The principal operations have been carried out on the middle or No. 3 lode, on which there has been a shaft sunk to the depth of about 16 fms., from which place the samples, nearly 16 fms. of ore of rich grey ore; there has also been an adit driven on its course about 60 fms., which has produced fine specimens of grey ore; and in cutting through the lode at this shallow depth (16 fms.), there have been also fine specimens of malleable or native copper, with green carbonate, found embedded between the layers of capel. The appearances of this lode generally are large and strong, with a very flaring appearance for large deposits of copper; and as operations can be commenced by water-power to a very considerable depth, I have no hesitation in recommending it as a first-class speculation.

To J. Matthews, Esq. ANTHONY PRYOR, of North Wheal Robert.  
**Wheal Friendship, June 22, 1855.**—SIR: In answer to your enquiries respecting Meavy Consols, I beg leave to remark that the sett extends about ½ mile in length on the course of the lodes, and is about 300 fms. wide. In this extensive sett five distinct lodes, running east and west, have been intersected by an adit driven in a northerly direction. Most of these lodes present favourable indications, and some of them produce stones of rich copper ore, and small quantities of malleable copper; in fact, I myself obtained about 7 tons of copper ore at a depth not exceeding 7 fms., and as this lode has had very little trial under this point, I think it is a speculation worthy the attention of any company of adventurers to pursue with vigour the working of this mine, by extending deeper levels on a lode which has given so favourable a result to the trials which have already been made on it, and the more so as the country in which the lodes are found presents every appearance of being congenial for deposits of minerals. You will please to observe that the above lode has not been more than about 15 fms. under the surface, and in the present end east the lode is large, and composed of gossan, quartz, grey and ruby copper ore, with malachite, and a great deal of malleable copper; so you must see that this lode is of a description that will warrant a spirited trial. I am glad to say that there is an abundant supply of water-power for the various requirements connected with mining purposes.—To Joseph Matthews, Esq.

**Devon Great Consols Mine, July 23, 1855.**—SIR: Meavy Consols, situated in the parish from which it derives its name, east to west on the course of the lodes 400 fms., and from north to south 300 fms. An adit level is extended a considerable distance northward, and several very promising lodes have been discovered. From one of these lodes, although a good pile of ore was broken only a few fathoms from the surface, nothing of any consequence has been done below that point, and the trial of the others has not been by any means sufficient to prove them. The specimens of malleable copper found in the course of working are unusually fine; and considering the general character of the lodes, the fine gossan, and the congenial nature of the strata in which they are embedded, with the proximity of granite to the east, no one acquainted with mining will, I think, hesitate for a moment to recommend this mine most deservedly entitled to a further trial. It should be observed, as a fact of great importance connected with the working of this mine, that there is a supply of water large enough, at all events, for draining and crushing purposes, and my impression is that, if judiciously applied, it would be sufficient to drain the mine, and keep the water to a reasonable depth under the present bottom.

To Joseph Matthews, Esq. JAMES RICHARDS.  
The fall of water available for working the mine—25 ft. above the mill-wheel, and 35 ft. below. As there are only 1343 (4000ths) shares remaining to be disposed of, an early application will be necessary.

# MEAVY CONSOLS.—NO APPLICATION FOR SHARES will BE RECEIVED after TWO O'CLOCK on MONDAY NEXT.

98, Gracechurch-street, Oct. 5, 1855.

# THE TRENALT TONTINE.

£10,000, in 200 subscriptions of £50 each,  
On Lives of not less than Seventy Years of Age, on the 1st January, 1855.  
The return of each subscription secured on the death of the nominee.

**SIDNEY BEISLY, Esq., 17, Hyde-park-gate South, Kensington Gore.**  
**FRANK WHITEHURST BUSH, Esq., 9, Old-square, Lincoln's Inn.**  
**JAMES E. SANDERS, Esq., 7, Lower Thames-street.**  
BANKERS—Messrs. Barclay and Crompton, 1, Lincoln's Inn-fields.  
**SOLICITORS:** Messrs. Beisly and Pattison, 1, Lincoln's Inn-fields.  
**LOCAL AGENTS:** Messrs. Pattison, White, and Dingley, solicitors, Launceston.

**OFFICES:**—17, BARGE YARD CHAMBERS, BUCKLESBURY.  
(Late the offices of the Devon Great Consols.)

## ABSTRACT OF PROSPECTUS.

A Tontine is comprised of small investments for life annuities, with immense benefit of survivorship; and the Trenalnt Tontine possesses the unique and important feature of providing for the return of the amount of each subscription on the lapse of the life of the nominee.

The estate of this tontine is situated in the parish of Trewen, in the county of Cornwall, and consists of 160 acres of freehold land, embracing the entire village or hamlet of Trenalnt.

It is proposed to raise the capital in 200 nominations of £50 each, and that the estate shall be held for the benefit of the subscribers as personal estate. Half-shares of £25 each will, however, be received where the two parties subscribing £25 each mutually agree on one life.

On payment of each subscription, a policy of insurance on the life of the nominee will be given to the subscriber.

Each subscription of £50 each, or two of £25 each, must be held upon one life of either sex, of not less than 70 years of age, to be nominated by the subscriber; and upon the fall of any life, the share in the ultimate stake depending thereon will merge for the benefit of the owners of the continuing shares. As soon as the lives shall be reduced to one, the entire estate, and all its benefits, will pass into the possession of the survivor of this life, and become his fee-simple; but as the property is capable of being divided into three compact farms, with residence on each, it may be desirable to divide the tontine when the survivors are reduced to three.

From the data given in the detailed prospectus, it is evident that the revenue from the property will become very considerable; and it is therefore proposed, from the proceeds thereof, that interest, at the rate of 5 per cent. per annum, shall be paid half-yearly on each subscription, during the life of the nominee; and that, after providing for the continuing policies, and as the income accumulates, bonuses shall be appropriated from time to time to the continuing survivors. In this way, a subscriber of £50 may receive back his money in a short time, and yet continue to receive his interest on the £50, to hold a policy of insurance for £50, as well as to have his chance of the end estate.

In case the number of nominations is not subscribed, the money will be returned. Applications for shares to be made to the secretary, solicitors of the company, or local agents, from whom plans of the estate, with prospectuses, may be obtained.

# REA VALLEY RAILWAY,

FROM SHREWSBURY TO MINSTERLEY.  
(Provisionally Registered.)

Capital £80,000, in shares of £10 each.—Deposit £10 per share.

Under the sanction of the influential parties interested in the district including:  
**LORD OSSULSTON, M.P.**  
**SIR J. R. KYNASTON, Bart., Hardwick Hall.**  
**THE REV. T. F. MORE, Linley Hall.**  
**HENRY LYSTER, Esq., Rowton Castle.**  
**W. A. NICCOLLS, Esq., Shrewsbury.**  
**W. O. COTTON, Esq., Bedford.**  
**THOMAS BOYCOTT, Esq., Rudge Hall.**  
**THE REV. C. DRURY, Pontesbury.**  
**THE REV. EDWARD MUCKLESTON, Shrewsbury.**  
**ENGINEER:** David Wylie, Esq., Shrewsbury.  
**BROKERS:** Messrs. Henry Tudor and Son, 29, Threadneedle-street, London.  
**BANKERS:** Messrs. Burton, Lloyd, and Co., Shrewsbury.  
**Messrs. Glyn, Mills, and Co., Lombard-street, London.**  
**SOLICITORS:** Messrs. How and Son, Shrewsbury.

This railway is projected with a view, in the first instance, to aid in developing the resources of the extensive and rich mineral district of Shropshire, and to afford the accommodation of railway transit to a wide extent of country in the south-western portion of Shropshire, now removed from convenient access to any line.

It is proposed that it shall leave the Shrewsbury and Hereford line about two miles from Shrewsbury, and follow the Valley of the Rea, passing Hook-a-gate, Messrs. Marshall's works at Hanwood, near to the smelting houses at Pontesford, and close to the villages of Pontesbury and Minsterley, terminating at Flix Green, in the township of Minsterley, in the parish of Westbury.

It was at first contemplated to extend the line at once from Minsterley through Worthen, to join the intended Oswestry and Newtown Line at or near to Cae'r Ffloy, in the parish of Montgomery, following the course indicated by nature up the Valley of the Rea, thus forming the most direct route from Shrewsbury into Central Wales, but it has subsequently been thought better to limit the project, for the present, to a line to Minsterley—requiring, of course, a far less amount of capital than if the line were carried on up to Cae'r Ffloy; whilst it is considered advisable to await the formation of the Oswestry and Newtown Railway, and also the result of other projects, which have recently been announced, for making a railway from Wemloch to Shrewsbury (possibly adopting a portion of the Rea Valley Line), before any extension of the Rea Valley from Minsterley is determined upon. Should it eventually be carried forward to join the Oswestry and Newtown Line, or should it form a portion of any other scheme for connecting Central Wales with Shrewsbury, it is obvious that a great accession of traffic will be acquired by it, from the convenience it will afford and the impetus it will give to the manufacturing and mining interests of Montgomeryshire, and that it will gain still greater importance, as a connecting link between the rich industrial districts of South Wales and the manufacturing and other busy localities in Lancashire and elsewhere to the north and east of Shrewsbury. There is little doubt but that the intercourse between these two most important portions of the kingdom must eventually be of great magnitude, and a source of immense profit. The proposed Rea Valley line will be ten miles in length. It will be projected, in the first instance, as a single line, but all the over-bridges will be made for a double line, and the under ones constructed so as to be extended at the least possible expense. Convenient stations and sidings will be made, where necessary, and land purchased for a double line.

From the nature of the ground, the line will be made at small cost, and the traffic of the district will ensure an ample return to the shareholders. As evidence of these facts, Messrs. Brassey and Field (the eminent contractors) are prepared to enter into an agreement to complete the line ready for opening, including all stations and sidings, for the sum of £2000 per mile (exclusive, however, of the purchase of land, which is not of the best quality, and will, it is expected, be had on moderate terms). They are also willing to take a lease of the line for seven years, at a rental to pay the shareholders 4 per cent., and to accept payment for a large portion of the contract in shares.

In regard to the traffic of the line, the minerals alone must be productive of very great profit. In the neighbourhood of Minsterley there are numerous mines in operation, producing, in round numbers, 5000 tons of smelted lead, or about one-tenth of the entire produce of Great Britain, annually, and no doubt can exist but this quantity would be very largely increased by the facilities afforded by a railway. The present cost of land carriage to Shrewsbury is four or five times that of railway transit; and besides this great saving in actual expenditure, the value of the saving in time can scarcely be overrated. There is also an extensive coal field adjoining the proposed line, ten miles long, and about one mile wide, producing upwards of 50,000 tons annually, which also may be greatly increased by the advantage of railway carriage. A very large agricultural traffic in live stock, grain, flour, &c., and a great demand for lime and other artificial manures, may be calculated upon. The local population is also a busy and a travelling one. Amongst other modes of conveyance, there are upwards of 20 licensed carriers, and other conveyances, carrying passengers and baggage from Minsterley, Pontesbury, and the adjacent districts, to Shrewsbury and back, each of them twice or thrice a week, and some more; and the Rea Valley district is densely populated with miners, colliers, and artisans of various descriptions, independently of the regular agricultural population.

Several landowners have promised substantial support to the project, and the inhabitants of the district generally are strongly desirous for its accomplishment, and will use their utmost endeavours for that purpose. The promoters desire to accommodate the district in the greatest possible degree, to make the line in the most economical way, to conciliate various interests, and to avoid, as far as possible, all annoyance to landowners through whose property the line may pass. They are strongly impressed with the conviction that the line is one actually called for by the wants of the district, and that it is likely to become a lucrative one; and they, therefore, rely on the legitimate nature of the undertaking, and its intrinsic merits, to ensure its success.

Applications for shares may be addressed to Messrs. How and Son, of Shrewsbury, the solicitors of the company; and to Messrs. HENRY TUDOR and SON, sharebrokers, Stock Exchange, London.

## FORM OF APPLICATION FOR SHARES.

To the Provisional Committee of the Rea Valley Railway.  
GENTLEMEN,—I request you will allot me shares of £10 each in this undertaking, and I agree to pay the deposit on that or any smaller number of shares which may be allotted to me; and I engage also to execute the Subscribers' Agreement and Parliamentary Contract when so required.

Dated the day of 1855. Name in full .....  
Occupation or profession .....  
Address .....  
Name and address of referee .....

## THIRD EDITION.

This day is published, in crown octavo, boards, with Tables, 240 pp.  
Price 3s. 6d., by post 4s.

# BRITISH MINES CONSIDERED AS A MEANS OF INVESTMENT;

WITH PARTICULARS OF THE PRINCIPAL DIVIDEND AND PROGRESSIVE MINES IN ENGLAND AND WALES.

## THIRD EDITION.

WITH AN APPENDIX, GIVING INFORMATION UP TO THE LATEST PERIOD.  
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A very useful publication, and calculated to considerably improve the position of home mine investments.—Mining Journal, Dec. 2.  
This is a valuable guide to investors in mines.—Herald's Journal, Dec. 2.  
Mr. Murchison takes sound views upon the important subject of his book, and has, for a small sum, within the reach of all persons contemplating mining investments in mining shares that information which should prevent rash speculation and unproductive outlay of capital in mines.—Morning Herald, City Article, March 21, 1855.

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Mr. Murchison has here brought together the details most wanted on the legitimate mining undertakings at home.—Globe, City Article, Dec. 7.  
The book will be found extremely valuable as a guide to all who are interested, or about to seek investments in mines; and we have elsewhere availed ourselves of some of the mining curiosities which Mr. Murchison has so skillfully brought together.—Observer, Dec. 24, 1854.

Will be exceedingly valuable to any one who desires to adventure in this important branch of our home industry, &c., &c., and comprising all that is necessary to guide a person in a judicious outlay of his capital.—Plymouth Journal, Dec. 7.  
The matter appears to us to be treated with much ability, and those who have any interest in mining, or who are desirous of investing capital in mines, should avail themselves of the information which the writer has so clearly brought together.—Plymouth Herald.

The author of this little work has evidently devoted considerable attention to the subject on which it treats, and has succeeded in producing a volume replete with information valuable to those interested in mining speculations.—Bristol Mirror.  
Those who are seeking information on mines and mining operations, with regard to money investment, will find all the instruction and guidance they need in these pages.—Dover Chronicle.

This is a very valuable book, which all who are interested in mining ought to possess. It is calculated, we think, to give an impulse to legitimate mining adventures, and to prudent enterprise.—Cornwall Gazette.

A very valuable work to those engaged in mining matters; it contains a great amount of important information, not to be had, in an equally clear, condensed,



Str.—By an announcement in last week's Journal, I find that, under this designation, some gentlemen have the intention of forming a company, with a view of enriching themselves, and at the same time benefiting the public. However plausible their project may appear upon paper, any one possessing the least practical knowledge will at once perceive not only the difficulty of carrying out the association, but the impossibility of a realisation of the profits, which are confidently expected to produce 20 per cent., and also leave a reserve fund. The whole scheme appears so crude, that however well intentioned the originators may be, it is clearly impracticable, and is founded upon such principles, that it is not only impracticable, but there is no doubt that an extensive correspondence with clergymen and gentlemen will be more remunerative than the management of the Mining Investment Company.

In the first place, it is proposed only to buy in dividend-paying mines, or those approaching that position. To invest in one of these requires no great judgment, they are accredited; but there are many who pay dividends out of capital, and are working at a loss from their first commencement. Do the promoters intend to investigate the books of these mines, or will their trustworthy agents, in the several districts, inform them by telegraph of the state of affairs? If the latter, how can they be sure, by telegraph, of the veracity of the information to be afforded. Here appears to me a great error, and which is quite sufficient to condemn the whole affair. It is in general the young and speculative mines that most money has been made; it is an everyday occurrence that mines are opened with too limited a capital, machinery is erected, floods are made, the returns are insufficient, a great loss on which the mine depended has not been cut, consequently the mine is wound-up; another company steps in, and a reduced cost purchases the plant, and with a little experience, sinking probably a few fathoms further, reaches the lode, and thus reaps what others have sown. It is these mines which a properly constituted committee would be unable to investigate, and which would be the cause of loss, or influence in the management of any mining company, whether it be good or good, their knowledge must necessarily be limited. The company comes into the market hampered with directors' and board regulations, to contend not only against the ability and acumen of the honest dealer, but the cunning unscrupulousness and trickery of many agents, who are well known in the parlours of Throgmorton-street. The rate of interest which the company propose to lend money on sale shares is 10 per cent., at short terms; no mining broker or shareholder



We have also a like proof that quartz grows in a short space of time, which I could prove to any one who likes to accompany me through the mines. A person visiting Devon Consols, by calling Capt. Richards's or Capt. Clemo's attention to it, will have it pointed out. I am, for various reasons, gathered by watchfulness, inclined to think that all lodes where quartz or other crystal are seen in the act of growing are progressive lodes. While on this subject, I would call attention as to how these things first form. Do they germinate from a seed of their own kind or what is the first formation, as I at all times find the first ore centre to be of a different character from

to attend to, is a mere figure of speech. Again, the Carbery meeting, lately to take place, and the proposed sale of the South Cork Mines, were so appointed that both fell on the same day, and same hour of that day. Now, the Carbery West directors and Mr. Lucas himself, were shareholders in both mines, and were, of course, supposed to be present, and in the concerns. One of the South Cork shareholders, among whom were directors, held the office of the General Warden, and was present at two meetings, the directors in both holding highly seemed rather extraordinary. The day and hour of meeting were, perhaps, fortuitously appointed, but it was to me a reason of not attending either. Under this aspect, therefore, I wrote, as I thought a friendly, or at least a polite, note to Mr. Lucas, recommending that he and Mr. Peter, who held the leases, books, &c., of the Carbery West Mining Company, and under their private seals, should look to their security, as the South Cork office, in which they were placed, was advertised to be let, concluding my note thus:—"I believe you can, by a resolution of shareholders, remove the books, &c., to any place agreed on." I do not mean to notice Mr. Lucas's bold charge of extortion by the Glenties, and the catchman employed to do nothing. These are not matters that belong to the committee's management, and, of course, I will not admit the insertion of a paragraph of this (Mr. Lucas's) letter, where he bursts forth in the following indignant apostrophe:—"Allah! he entrants, "protect the well-meaning man against London stock-jobbers and Irish quack miners." What a devout aspiration! What a halloo of liberality and refined taste encircled his pen while writing this *plus ultra* of bathetic enthusiasm! But now let it be requested that he look at

Oct. 3.—I wrote my report a week or two since, and promised to send a rough



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The Railway Share Market has exhibited great weakness, the prices not selling lower, but great reluctance being evinced to purchase for investment, even at the present depressed rates—the £6 calls for the ten months of the current year amounting to 17,726,529½, against 11,077,983½, the average for the same period of the years 1854 and 1855; thus showing an excess of £6,648,546, against the ten months ending October 1855, a fact so startling that it calls for special consideration by all interested in Railway property. Why is it that the Great-Western, the North-Western, Eastern Counties, and other important lines, pay, in dividends and interest, no more than Consols and other Government securities? Yet the public continue to advance above a million sterling, every day, to the extent of £100,000,000, to the London & North-Western Railway party must come down in price, and we predict that the day is not distant when the veil that hides the mysteries of the existing system of misrepresentation and deception will be raised, the delusion at present so successfully practised upon the credulous shareholders dissipated, and the fabric shook to its very foundation. It is undoubtedly a fact that the original shares in many lines will, hereafter, be proved intrinsically valueless, and their reversal will be a matter of time. The system adopted in the existing stock market. Why, therefore, should capitalists allow the public continue to invest their money therein, under the false belief that shares are more bona fide and permanently safe and secure than those of our Cornish and Devon Dividend Mines! which yield 10 to 15, and even 20 per cent. per annum, in monthly and quarterly payments: the very system and constitution of railways, as they now exist, is a mere ruse and a snare; and the whole of the railway system, as it is, is proved, throughout again, to be not practically advantageous for the interests of shareholders; when legitimately carried out it is simple, efficacious, and safe in its operations, with many peculiar and especial advantages; meetings should be held

**HULL, Oct. 4.**—Of course, during the week, the tightness of the money market has effectively prevented anything like buoyancy in railway shares. The 1 per cent. action by the Bank of England to-day has caused an unusual feeling, especially as there has been no large amount of overtrading in anything nor even the usual average amount of business. A demand for war purposes, coupled with a demand for loans, would seem to render some change with regard to our money laws imperative.—**T. W. FLINT AND CO.**

**SHEFFIELD, Oct. 3.**—We have not much to report as to the mining share market. Prices of the leading mines are steady, though not much in demand. Brightside shares are flat, in consequence of the large amount of dead work absorbing the money which would be otherwise applicable for dividends. Peak United have declared a dividend of 10s. per share, being only three months since the previous one. The increased tightness of money depresses the market for all kinds of stock.—**E. SMITH AND SONS.**



## BRITISH MINES.

here before. There might be a deal of ore raised about this shaft, but I do not advise it, as the expense in dressing by hand is great, although I feel as pleased with Captain Neill's mode of dressing as with his underground operations. When the lode is in the next level I hope to hear of a crusher and drawing-engine, as I believe the

GREAT WHEEL ALFRED.—No alteration since last report.—T. RICHARDS: OCT.  
GREAT WHEEL BADDERN.—We have set the western engine to work, which has forked the water so far as to enable the men to sink at the new shaft, but the air is very foul, and I much fear we shall have it so until the dam is taken out. T.

of ground, and will yield many tons of ore; the lode will produce 4500 lb. of copper, 1000 lb. of silver, and 1000 lb. of gold, per ton of ore; price for stoping down, 45¢, per ton. The Duke's shaft, at Orerests, is 100 ft. deep, and requires but 6 ft. sinking down to where the lode has been cut. Some lumps of ore were brought up from the place where the shaft is unwatered. In the deep adit, there are various veins of thin spar, intermixed with a portion of the shales, that come harder this day or two, which indicates cutting the



I have entered the vein to bear towards the south; this driving is let at 90s. per fm. At the 2nd level the men are driving on a thin vein of confused rock, mixed with spar, and the vein is about 1 ft. wide. They expect to cut the vein at the 3rd level; this driving is done at 80s. per fm. Quantity of ore sold in the 1st level, 2 qrs., at 117. 7s. 6d. per ton, and another lot now ready dressed for sale. —W. SILVERSTEIN: Oct. 3.

**NORTH UNITY.**—The lode in the 36 west is worth 12s. per fathom. The lode in the same level east is worth 3s. per fathom. The 46, driving west, contains a little ore, and is very promising. The north lode is fast improving, looking better than I ever saw it do before. The Moor lode is much the same as last reported. —H. H. BARNES: Oct. 3.

**NORTH WHEAL BUSY.**—Painter's engine-shaft is sunk 10 fms. 2 ft. below the 10, where we have cut the new lode, which is about 1 ft. wide, worth 16s. per fm. of the shaft—11 ft. long, sinking at 12s. per fm., and improving every foot we sink. As we have had but very little ore directly over this point, in the level above, we regard this as being a very important discovery, which considerably enhances the value of the mine. The lode in the 10 end is much improved, being 14 in. wide, and producing saving work, driving at 55s. per fm. The lode in the 10 end west is 9 in. wide, composed of jack-spar, with spots of ore, driving at 32. 10s. per fm. The lode in No. 1 stopes, in back of the 10, is 1 ft. wide, worth 8s. per fm., stopping at 25s. per fm. The lode in No. 2 stopes, in back of the 10, is 16 in. wide, worth 16s. per fm. On the whole, the mine is much improved since last report. —S. S. NOBLE; JAMES W. CRAW: Sept. 29.

**NORTH WHEAL CROFTY.**—Reeves' Lode: The 80, driving west, produces saving work for copper ore. The winze sinking below the 60 is worth 8s. per fm. The 70, driving east from the cross-course, yields saving work. The 80, driving west, is worth about 60s. per fm. The 80, driving west, on south part of lode, is worth 8s. per fm. In driving west in the 90, the lode is large, producing a little ore. —Cherry-garden Lode: The rise above the 43 is worth about 12s. per fm. The 43, driving west, is worth about 8s. per fm. The tribute department has improved during the past week. —W. THOMAS, Jun.: Sept. 29.

**NORTH WHEAL ROBERT.**—The 42 end, driving west, continues to improve—lode about 6 ft. wide, yielding 3 tons of ore per fm. All the other parts of the mine are producing much as usual. No lode taken down at the Trial shaft, on the western ground, this week. The lode in the 30 end, driving east from Trial shaft, is about 5 ft. wide, producing good stones of ore. In the 30 west the lode is about 5 ft. wide, composed of pryan, spar, and muddle, with good spots of ore. The lode in the 20, driving east, is about 4 ft. wide, producing good dressing work. —A. PAVON: Oct. 3.

**NORTH WHEAL TRELAWNY.**—Since our last report the shaftmen have eased and divided the shaft from the 25 to the 30 fm. level, almost finished the pit in the 30 fm. level, and extended the cross-cut west towards the lode about 3 ft. The lode in the 25, north of the shaft, is 2 feet wide, producing 3 cwt. of lead per fathom; in the same level south it is 1½ ft. wide, producing 4 cwt. per fm.; in the rise in the back of this level south it is 2 ft. wide, producing good stones of lead. In the 13 north it is 1½ ft. wide, producing 3 cwt. of lead per fathom; the winze under the level is communicated with the 25, and the winze under the adit level is communicated with the 13 fm. level. The stopes and pitches are producing much as usual. We sold on September 26 two parcels of lead ore—viz., No. 1, 22 tons, to Messrs. Walker, Parker, and Co., at 18s. 5d. per ton, and No. 2, 18 tons, to Messrs. Sims, Williams, and Co., at 3s. 3d. per ton. —H. HODGE; H. HARVEY: Oct. 3.

**NORTH WHEAL WREY.**—Having been requested to inspect this property, I beg to submit the following:—This set is situated in the parish of St. Ives, it is bounded on the south and south-west by the celebrated Wheal Wrey, and west and north-west by Wheal Gill. I consider from the position of the set there are at least two of the Wheal Wrey lodes passing through this set; in addition to which there is an east and west lode already discovered, bearing a kindly appearance, in very congenial strata; I might say, producing the same nature of Wheal Wrey, and also the same quality of minerals, which are all more or less productive, and some profitable. In taking a geological view of this property, that is having precisely the same channel of ground as Wheal Wrey, and adjoining the same, which is now returning handsome dividends, I cannot but consider it a favorable speculation, therefore I recommend your entering the set through at once, so as to cut and lay open the different lodes that are passing through it, which when done I have every reason to believe will show something to corroborate the earliest appearances of the adjoining mine. —ANDREW BARNETT: Oct. 29.

**OLD TREWETHER.**—At Wheal Thomas, the lode in the end is about 2 ft. wide, composed of flookan and soft spar, intermixed with muddle, and still producing good stones of copper ore, with spots of lead, but not enough to set any value on. There is a great deal of water coming from the north side, and higher mineralized. I have put the men to cut in a few feet north, to see what we can meet with, and will inform you the result in my next. The men are working well, and, according to the underlie of the lead lode seen in the pit sunk on the hill, it cannot be long before we shall intersect the lode in the end. —S. KENT: Oct. 3.

**PENBROKE AND EAST CRINIS.**—Hunter's District: We have taken down the lode in the winze, in the bottom of the 30 fm. level, which is about 6 in. wide, producing saving work for tin. The cross-cut driving north in the 70 is progressing favorably. —Holt's District: We have got our standing lift to work in the 142, and have resumed the sinking of the shaft; the shaftmen have taken 10 fathoms stent, at 14s. per fm. —East Crinnis District: In the 134 fm. level west no lode taken down this week, as the men have been engaged clearing and securing the lode. The middle lode east, in the 134, is 15 in. wide, producing occasional stones of ore. The lode west, in the 122, is about 2½ feet wide, worth 6s. per fathom. The main lode west, in the 122, is about 2 feet wide, and improved in appearance since last reported. The winze sinking in the bottom of this level is worth 6s. per fathom. The 122 east, on the main lode, is suspended; we have also suspended the driving of the 30, east from Smith's shaft, for the present, and put the men to stop a piece of the lode under the slide, in order to prove it. In the cross-cut driving south-east from Smith's shaft the ground is still favorable. We have commenced clearing up Wheal Cully engine-shaft, and find it is filled about 22 fathoms, which will take us a fortnight from this time to clear. We have been in the 40 fm. level at Wheal Cully, from where we holed, about 30 fms.; we find the level in this place nearly filled with stuff, which we have put six men to clear with all possible speed. The tribute department is looking much as last reported. —J. DALE; G. T. TREWEN: Oct. 2.

**FENHAUGER.**—The lode in the back of the stopes is at present rather poor; if by putting another small stop over it it improves, we shall go still higher, but without an improvement we shall not. —T. GREENELL: Oct. 1.

**RHOYSD SLATE QUARRY (FESTINIOG).**—Two months having now elapsed since the last meeting of our shareholders, it is with much pleasure we are able again to assure them that our proceedings have been, to the fullest extent, satisfactory; that very extensive workings have been executed in uncovering the slate vein, driving level, &c.; that upwards of 13,000 tons of rubbish have been removed; and that through the slate vein, under the clay east west, or Moelwyn side, has been driven 35 yards; the entire top over the same has been removed to the extent of 70 yards, which is the far as it is intended to be removed. We have two shafts, one large here in full work, and shall soon have two more, or one very large one. The opening of the shaft east, or Cwmorthin side, is nearly cleared to clay slate, where extensive slate-making operations will soon commence. Our make last month was between 50 and 60 tons, and has been progressively increasing, which, it is satisfactory to add, is certain to continue. We are quite aware how difficult it is to explain the workings of an extensive slate quarry like Rhoysyd, unless it be seen; hence we are glad that one of our directors, and also the secretary, have so recently visited us, and are, therefore, able to give any information required; and it is truly gratifying to us, as shareholders, and also as agents, to be able to assure them all on the ground that Rhoysyd Slate Quarry has in every respect fully borne out the very high character we have from the first given it. —J. HARPER; T. JONES: Sept. 29.

**BORINGTON.**—Harrison's lode in the deep adit level, driving east, is 2 ft. wide, composed principally of carbonate of lime, 1 ft. of which is saving work for lead ore. We have put two additional men in this end, in order to explore the lode as fast as possible. The stopes in the back of this level, on the same lode, will yield 5 cwt. of lead per fm. Yesterday we sampled 6 tons of good quality lead ore, samples of which were sent in the usual form, and on the 28th Sept. we sold 50 tons of sulphur berries, at 20s. per ton. —J. TAYLOR: Oct. 3.

**ROUND HILL.**—The new lode in the 30 fathom level, driving south-west, has improved since my last report, and is now producing saving work. The lode in the 20 fm. level, driving south of new engine-shaft, has been discovered by a cross branch, but is improving again in size, bearing spots of lead ore in it, but nothing to value. The lode in the 20 fm. level, driving south of new engine-shaft, is 4 feet wide, and will yield 20 cwt. of lead ore per fathom. We have 13 pitches let to tributaries, at prices varying from 5s. to 8s. per ton, which will be seen by the setting report accompanying this. We have sampled September ores, computed 37 tons, and sent our copper to the smelters as usual. We are getting on with the necessary work for copper shaft as fast as possible. The bob only as yet has arrived; no time will be lost when the results of the castings are brought, in fixing them and completing the work. —J. KNEEDER: Oct. 3.

**SEVERN.**—Our engine continues to work steady and well, and I am glad to say that the 10 fm. level is all clear of water. Our shaftmen are now engaged staying the lift, and putting in the ladders from the deep adit down. I expect by the end of this week to be able to set the 10 fm. level to drive. We must now get timber, and put up a whim as soon as possible, for the purpose of drawing the stuff and dividing the shaft. We have not yet seen the necessity of stopping the water from the wheel when we first set it to work on Saturday last, which will show you that everything has been nicely put together. —J. REYNOLDS: Oct. 2.

**SORTIDGE AND BEDFORD.**—The new shaft, on the copper lode, is sunk nearly 14 fms.; the lode is about 5 feet wide, composed of gossan, pryan, muddle, and good ground, and driving again in size, bearing spots of lead ore in it, but nothing to value. I have every reason to anticipate that at no great depth we shall have a good deposit of copper ore. We have opened on a south lode, about 1½ foot wide, underlying north 2 ft. in a fathom, which will intersect the lode in the shaft at about 15 fms. deep. The water-wheel, test, &c., is progressing as fast as possible. —THOMAS BULL: Oct. 3.

The new shaft on the copper lode has been sunk to the depth of 13 fathoms, in a level, containing gossan, muddle, and quartz, with spots of copper ore. In sinking the lode 6 ft. the lode has improved, producing spots of copper in the gossan. The engine-wheel will be ready in the course of this week. The masons are engaged in building the mine pit. Saturday last being setting-day there were 2 fms. set, at 11s. per fm. in the shaft. —T. TREVEN: Oct. 4.

**SORTIDGE CONSOLS.**—Hitchins' engine-shaft is about 7 fms. under the 40, which is reported. The winze in the bottom of the 30 is worth 3 tons per fm. Baker's stopes are as last reported. The pitch in the back of the same level is much the same as last reported. The pitches in the back of the 20 are still very good; the leader of ore is so large, now averaging about 9 in. wide, solid. I believe this will be another distinct lode going west, which we shall prove shortly. —J. METHELL: Oct. 4.

**SOUTH BEDFORD CONSOLS.**—There is no material alteration in the mine this week. Red Whim shaft continues to yield 3 tons of ore per fathom. All other parts of the mine are looking much the same. —J. PHILLIPS, Jun.: Oct. 3.

**SOUTH BOG.**—The lode in the 35 end, driving east, is 2½ ft. wide, and the ground is fast improving. The stopes under the 23 will produce 10 cwt. of lead ore per fm. The lode, will produce 10 cwt. of lead ore per fathom. —S. MORRIS: Oct. 3.

**SOUTH CRENVER.**—The engine-shaft is sunk about 6 fms. below the 64 fathom level; the ground in the shaft is favorable for sinking at present; price, 26s. per fathom. In the time in back of the 54, west of flat-rod shaft, the lode is 1½ ft. wide, producing about 1 ton of ore per fathom. We have about 2 fms. to rise to hole in the 74. When this mine is sunk, the lode is 1½ ft. wide, producing 1 ton of ore per fathom—ground favourable. In the 74 end, west of flat-rod shaft, the lode is

from 2½ to 3 ft. wide, producing 2 tons of ore per fathom; ground 3s. 10s. to 3s. per fathom. The tribute pitches in the back of this level are looking well. In the 74, east of the engine-shaft, the lode is 20 in. wide, producing fine stones of ore; this lode is very much improved in appearance, and the end is now within 9 feet of the bottom of Gore's shaft. Gore's shaft is sunk 2 fms. 4 ft. 6 in. below the 64; the ground in this shaft is favorable, but without any lode at present. In the 64, east of Gore's shaft, the lode is from 2½ to 3 ft. wide, producing from 2½ to 3 tons of ore per fathom; this level is improved in the last fathom in driving. In this level we are looking forward to a long course of ore ground, from the ore ground driven on in the level above. In the stopes in back of this level, east and west of Gore's winze, we have a good ore lode, 2 ft. wide, producing 2½ tons of ore per fathom. In the 54 end, east of Gore's, the lode is 1 ft. wide, producing good stones of ore, but not to value. Our tribute throughout the mine is without alteration since last report. —J. DELBRIE; E. CROFTON: Sept. 29.

**SOUTH DEVON GREAT CONSOLS.**—At the engine-shaft, there has been no change during the week; the men are proceeding regularly with its sinking; the continued hardness of the ground prevents our making as much speed as could be desired, but, judging from the nature and dip of the ground in the level above, we hope soon to have a change for the better. It is probable that several branches will fall into the lode and enrich it, and that good results will be obtained. In the end in the 37 there is no alteration, except that the ground is a little more favorable for driving. In the cross-cut nothing of importance has been met with. —J. COCK: Oct. 3.

**SOUTH ROBERT AND SORTIDGE UNITED.**—We are still continuing to open the various lodes in this set, which are producing large rocks of capel, muddle, and gossan, spotted with rich copper ore, the stratum being a beautiful killas, and surrounded by Sortridge Consols and North Wheal Robert. The principal lode is 12 ft. wide, carrying a fine gossan on the back, spotted with muddle and copper ore, and promising to make copper at a shallow depth. —J. POMEROY: Oct. 4.

**SOUTH PROVIDENCE.**—Since my last, at Hosking's shaft, the men have continued their sinking; the ground is still favorable, and the lode is now 14 in. wide, producing stones of tin. The men in the rise in the back of the adit level have not yet holed; the ground has been hard, but is now just spent. —E. WILLIAMS: Oct. 3.

**SOUTH ZION.**—The end is driven east 8½ fms. on the course of No. 2 lode; it presents a most kindly appearance, being composed of gossan, spar, capel, muddle, and copper ore, and is quite as large as last reported (3 feet wide). The adit end is being driven forward, in order to intersect one or two other east and west lodes, still ahead of us. I have to meet the occupiers of the surface to-morrow, to arrange as to the ground required for the shaft. —J. HODGE: Oct. 3.

**ST. AUSTELL CONSOLS.**—The lode at Dowson's, in the 25 end west, never looked so well as it has done this past week; the whole of the present end is worth at least 1 ton of tin to the 100 sacks. I enclose tin bill (3 tons 19 cwt.). You see I have brought in our sampling a week, as our general day for returning has been a week after our pay-day. We have now opened in length 20 fms. of good tin ground, and the present end shows a better appearance than we have seen it do before. The lode varies from 2 to 3 fathoms wide, and for the whole width, where we have cut it out, has averaged upwards of 100 lbs. of tin to the 100 sacks. When I tell you that six men driving the end, and two other men cutting out the lode behind the end, have broken nearly 4 tons of tin in four weeks, it will enable you to judge of the richness of our stuff. We have just touched the lode in the shaft, close to the cross-course; it presents just the same appearance as in the 25, at the same points. I am fully convinced as soon as our new stopes are erected you will be highly satisfied with our returns. In our nickel department we are dressing up a small parcel of this ore. I have also put part of the men driving the 45, at Young's shaft, to rise up in the back, to unwater the sink, which will enable us to raise the nickel in sight in the north and south sinks. We are also in course of raising up a small parcel of copper ore, which I will sell as soon as we can get it ready. —R. H. WILLIAMS: Sept. 29.

**TAMAR SILVER-LEAD.**—In the 215 the lode is 2½ ft. wide, and producing 14 cwt. of ore per fathom. The lode in the 203, 1½ ft. wide, and occasionally producing some good stones of ore. The stopes in the back of this level is yielding 8 cwt. of ore per fathom. In the 190 the lode is 6 ft. wide, and worth 1 ton 3 cwt. of ore per fm., and the stopes in the back are returning as follows:—No. 1, 1 ton 16 cwt.; No. 2, 2 tons; No. 3, 1 ton 10 cwt.; No. 4, 1 ton 4 cwt.; and No. 5, 1 ton per fm. In the 175 we have commenced driving a cross-cut east, as we are of opinion that the main part of the lode, for upwards of 100 fms. in length, has been left standing by the tributaries. We shall be enabled to prove this by the end of the week, and should our judgment be correct, we shall lay open a large piece of profitable ground. The 175 and 160 stopes without any alteration. —W. HODGE: Oct. 1.

**TOKENBURY.**—We have no alteration to notice in the engine-shaft since my last report. The shaftmen have been a little delayed in sinking this week, in consequence of a hole breaking out in one of the bottom nozzles of the engine; this, I am happy to say, is all right again. The 52 east, on D lode, is in disordered ground as yet, in consequence of the cross-course; I hope next week to see more of the lode. The 52 cross-cut south is without alteration, so are the south lodes in the 37. We are progressing with the new engine as fast as possible. I hope if we can get the castings from the foundry to have them all fixed by the middle of next month.

**TREHANE.**—The stopes in the back of the 121 fm. level, north and south of shaft, are worth on an average 7s. per fm. for lead and silver. We have four stopes in the back of this level, wrought on by sixteen men. The stopes in the back of the 121 fm. level, north and south of shaft, are worth on an average, 16s. per fm. We have four stopes in the back of this level, wrought on by sixteen men. We have five tribute pitches above the 88 fm. level, wrought on by twelve men, at an average tribute of 15s. 6d. in 14, for lead only, the tributaries to pay 1s. per ton returning charges. I shipped the No. 1 parcel of silver-lead ore, purchased by Mr. Thos. Somers, of Bristol, on Friday last, which, being computed 72 tons, weighed out 72 tons 0 cwt. 2 qrs. dry weight. No. 2 parcel was sold on Friday last, Sept. 28, computed 27 tons, and purchased by Sims, Williams, Nevill, and Co., at 5s. 15s. per ton. —T. WOOLCOT: Oct. 1.

**TRELEIGH CONSOLS.**—Carr's engine-shaft is sunk 8 fms. below the 30 fm. level; we have got entirely through the bed of hard quartz, and the ground below it is favorable for sinking. At Nicholson's, we have reached the bottom of the old workings, where the lode is 4 ft. wide, underlying 15 in. in a fathom north; 2 ft. from the bottom it is composed of quartz, containing 2½ cwt. of black tin in a ton of the stuff, but in the bottom there is scarcely any tin; it will, however, produce 1 ton of yellow copper ore per fathom, and this looks well for a depth of only 19 fms. from surface. I have examined Wheal Catherine adit throughout, and it is brought into a proper state to take away any quantity of water through it. —J. PAINCE: Sept. 29.

**TRELOWETH.**—The 90 is driven east of engine-shaft 6 fathoms; the lode being carried from 4 to 5 ft. wide, will produce 1½ ton per fathom. The 90 west is driven 5 fms., the lode about 6 ft. wide; the south part, for 14 inches wide, contained good yellow ore. The lode in the 80 east contains stones of ore, but not to value. The lode in the 80, west of engine-shaft, contains spar, and a little ore. The pitches continue to yield a fair quantity of copper ore. —Sept. 29.

**TRENOW CONSOLS.**—The engine-shaft is 10 ft. below the 80 fm. level; the lode is 2½ ft. wide, with rich stones of copper ore. The 80 fm. level, east of engine-shaft, is 15 in. wide, producing good lode of copper ore. The 80 fm. level, west of the 70 fm. level, for 40 fms. long. We are now driving the 80 west; the lode is 2 feet wide, worth 6s. per fathom. The 70 fm. level west is much improved; we have in this end a good branch of in, and also stones of copper ore. The 70 fm. level east is in good ore ground. We have a good course of copper ore before this end in the 60 fm. level. We are glad to report that the 60 fm. level is now extended 60 fms. east from the engine-shaft, in a good run of copper ore; and from noticing such improvement in the upper levels, much good may be expected from the 70, 80, and 90 fm. levels. We have good ore ground in the 60, east and west; and also good tribute ground in the back of these levels. Carr, Perrin, and Wheal Cully, all of them, are in a position now to raise large quantities of tin, if the stamps were ready to stamp it. —R. RICH.

**UNITED MINES (TAVISTOCK).**—The eight tributaries in the pitch in the eastern winze are still pressing on with vigour, and are raising about 2 tons per month. We have three other pitches at work, two with two men, and one with three, who will raise about 1½ ton per month. We are without water for dressing. All the stopes are looking well. The shaft is holed and partly squared down, and we are happy to inform you that it is perfectly true. We have got in the stone for the cylinder bed, and the loading for the fly-wheel is just completed. All other works progress as rapidly as possible. We have been hindered in not obtaining the necessary timber, the wagons being all engaged in the harvest fields. —J. OXFORD; J. BOWEN.

**VALE OF TOWY.**—At Clay's engine-shaft, in the diagonal shaft, sinking under the 80, ground is much improved. The lode is 2 ft. wide, producing 1½ ton of ore per fm. In the same level, south of Field's shaft, the lode is 5 ft. wide, with much the same appearance as for some time past; but as we are getting near where we had a good lode of lead in the level above, we may calculate on an improvement in this end ere long. The lode in the rise in back of the 20, south of Field's shaft, is 2½ ft. wide, producing 1 ton of lead per fathom. In the same level, north of Bonville's shaft, the lode is 20 in. wide, producing a small quantity of lead. In the winze in bottom of the same level the lode is 2½ feet wide, producing 12 cwt. of lead per fathom. In the 10 end, driving north from cross-cut to south of Field's shaft, the lode is 2½ ft. wide, mixed with lead. —S. THOMAS.

**WELSH POTOSI.**—At Esbair-Hir, No. 1 stopes, back of the adit, is a little improved since my last, and I find the ore ground extending further east, and in rising the ore lengthens in this direction; this stopes yields at present 1½ ton of lead ore per fm. No. 2 stopes, west of No. 1, yields 1 ton of ore per fm. Wilkinson's stopes is without alteration, yielding 3 tons per fathom. The stopes east of No. 1 winze yields 2 tons per fathom; the stopes west of ditto yields 3 tons of ore per fathom; and, judging from the present appearance of the lode, I am led to expect a large return from this part of the mine. The adit end, driving west of footway shaft, on the south part of the lode, is looking well. Here we have laid open several fathoms of ore ground, which is now being stoped, the average produce of which is 1½ ton of ore per fathom; 15 fms. from this end eastward, we are sinking a winze to communicate with the 10 fm. level, now driving towards this part; after this communication is made, we shall be able to employ a great number of hands to stop the back of the 10 fm. level in ore ground, producing 1½ ton of ore per fathom, on an average. In the 10 fm. level, driving west of footway-shaft, the lode produces 1½ ton of ore per fathom. Nos. 4 and 5 stopes, back of the same level, yield each the same quantity, and Nos. 6 and 7 each 2 tons of ore per fathom. The 10 fathom level, west of old engine-shaft, has been driven on the south part of the lode—unset now. I have thought it advisable to drive north instead, so that we may come under the present workings in the adit level and No. 1 winze; the ground also is more favorable for driving in this part. The communication I hope will be made in the course of two months; we shall then have 110 fms. of ore ground laid open for stoping, and from the appearance of the lode, and the fact of the ground directly over this in the adit level being worked away to the surface, justifies me in expecting a considerable return from this quarter. —ESBAIR-FRITH: At Bog new engine-shaft, sinking under the shallow adit, I find the lode improves greatly in the course of sinking, and produces good saving work; this bears me out in the statement made in my former report, that after a communication is made with the deep adit level, it is very probable that this will be the most important part of the mine. The lode in the deep adit, west of drawing-shaft, is

very promising, composed principally of quartz, blende, carbonate of lime, clay-slate, and a strong mixture of lead; the yield at present is 1 ton of ore per fathom. —At ACRYN and LLYWYNN, nothing new has transpired since my last report. The ground in the cross-cut south, at Ailtryb, is favourable for driving, but without any indication of approaching the lode. I expect to cut the lode at Llywlynn by the end of this month or the beginning of next. —R. DUNN: Oct. 2.

**WEST BASSET.**—North Lode: The engine-shaft sinking under the 94 fathom level progresses favorably; lode 6 ft. wide, with good stones of ore. In the 30 fm. level east the lode is 3 ft. wide, worth 4 tons of ore per fm. —South Lode: The 52 fathom level east produces 2 tons, and likely to improve. In the winze sinking under the 42 fm. level the lode is 4 ft. wide, producing 8 tons of ore per fm. The lode lately cut in the 42 cross-cut, south of Thomas's shaft, can be seen 2 ft. wide each side, worth 3 tons of ore per fm., without any appearance of the south wall. All other bargains are much the same as last reported. The stopes and pitches continue to look well. —WILLIAM ROBERTS: Sept. 29.

**WEST COLLACOMBE.**—Bridgman's Engine-Shaft: In the 67, driving east, the lode is without any important alteration, producing 1½ ton of ore per fathom. In the 52, east of the cross-course, the lode is improved, and will produce full 8s. worth of rich copper ore per fm. In the rise in back of the 42 east the lode is still of a very promising character, it being composed of capel, spar, pryan, and ore, but not enough of the latter to value; however, from present appearances an improvement is daily expected. There is but little alteration to notice in the tribute department since my report of last week. We are putting in air-pipes—in fact, making every necessary preparation to commence stoping away on the lead lode in the bottom of the 52 as fast as the nature of the work will admit. We are also getting on with the forwarding of the stuff at the different levels as fast as possible, and when cleared we shall lose no time in getting in the tram-road in the 52 east. —H. RONA: Oct. 4.

**WEST PAR CONSOLS.**—We have a great improvement in the ground in the north cross-cut, and a great deal of muddle going on with the cross-course; we have driven this week 6 ft. The men are now further back in search of the west part of the lode, and a few days will prove it. We have driven about 4 fms. by the side of the large lode, and shall now take down a part of it. Capt. Chas. Thomas was at the mine yesterday, when I gave him every information in my power. —T. FLOYD: Oct. 4.

**WEST POLBERRO.**—Mason's engine-shaft will be ready to receive the whole of the pitwork in about a fortnight, the plunger-lift now commenced to fix 30 fms. from the surface, and the rods will also be laid down; shortly after, without any unforeseen occurs, we hope to be ready to work the engine. The engine is finished, with the exception of a few trifling fixtures, and the engineers will commence fixing the stamps' connection and axle this week, and, if possible, the stamps shall be ready to work with the engine, but I scarcely think it possible to get it properly finished; we will do our best to accomplish it. The crusher is on the mine, and drawings are prepared for the connection; the masons are now engaged roofing the boiler-house, and when finished will commence building the crusher-house. The shallow level, on the Callow lode, will in all probability be communicated with the rise in the back of the deep adit in the course of the present month, when we shall be ready at once to stop the ore ground, with good ventilation, and other appliances for greater speed than formerly. The new shaft on Callow lode is still in a hard and large lode, and spare for sinking, the water is also increasing in it. I have taken the men from the adit end east, on Callow lode, for a short time, to assist in sending down and fixing the lift and rods in Mason's shaft. In the end driving west, on North Tin lode, we have very promising lode, 2 feet wide, producing muddle, peach, and tin. I think ultimately this will be found a profitable lode. We have succeeded in going into the south cross-cut, south of North Seal Hole lode 160 fms.; in this ground we found 50 fms. of soft granite, and in the end the level is gone together by a run of decomposed granite from the back of the level, which has entirely filled the level; we have tried to go through it, but the air is so foul we cannot possibly keep a light to accomplish the object. I am glad to tell you that within this distance (160 fathoms) we found eight large champion lodes, two of which are in the soft granite, and one in the muddle. Within a feet of it, I believe the south wall is not many feet from the granite. The muddle is of a very peculiar character, the most cheering lode of the large and well-defined. I may say the old workers have done nothing on either of them to prove their value; they just opened on them west of cross-course sufficiently to show their bearing and underlay. A more encouraging piece of mining ground cannot be found, having so many large lodes deposited in such a congenial stratum of ground, and a 55 fm. adit driven, and clear to commence working on them, so soon as the engine is ready, with a machine attached to give air. —T. JULIAN: Oct. 4.

**WEST SORTIDGE.**—This mine having been specially inspected by Capt. Joseph Hodge, on behalf of a large shareholder, we have been favoured with a copy of his report:—"The engine-shaft is down 20 fms., and is so placed as to meet with three lodes when sunk to the 30. At the present depth a cross-cut is opened and driven south 8 ft.; this driving is considerable in width, and is 8 ft. high, so as to answer the purpose of a shaft. The ground is level, and the progress is, however, slower than if only a common-sized level was being driven, but as the lode may be expected to be reached in about 6 ft. further driving, the object should be accomplished in about a fortnight. The character of the ground is most favourable, and the features altogether are most encouraging, as almost every joint, as removed, presents a face spotted with yellow copper ore, which goes far to prove that several branches are dipping towards the lode from the cross cut, and which will, doubtless, improve its character in depth. A 10 fm. level east is opened for 40 fms. on the course of the lode; the lode in the end is 24 ft. wide, with branches of tin throughout its face; this end is being driven forward by six men. About 3 fms. from the end the two men are employed stoping the backs for tin, and from which a fair quantity is being produced. About 2 fms. further back a cross-cut north is put in 3 fms., to intersect the junction of the tin and copper lodes, supposed to be about 5 fathoms ahead. This work should be continued with all speed, and from the splendid appearance of the copper lode in the open cutting of the old workings at surface, I believe good results will follow. I consider this copper lode a continuation of that of Sortridge Consols, and I have no doubt but that it will make copper in large quantities even in the 10 fm. level, at which point it will be about 15 fms. under the old workings. I consider it most important to see the junction at the point I have mentioned, as to the most productive copper ore, immediately adjoining Sortridge Consols on the east, and I do not hesitate to say that you will eventually have a productive and a lasting mine, and at a comparatively moderate outlay. The mine is well laid out, and the work is being carried on with economy, for which great credit is due to the agents. The machinery consists of a newly-erected water-wheel, 15 ft. diameter, 7 ft. breast, which is now working a set of 7-in. pumps, and keeping the mine drained to the present depth by three revolutions per minute. There is a good supply of water, and, in my opinion, you may safely calculate to work the mine to a 30 fm. level, on all the lodes, with the present machinery. There are four boys engaged cleaning tin, which has been about 1200 lbs. in the 30 fm. level, and the doors, will make a large quantity of tin, worth about 1200 lbs. The breaking of tin-stuff will be going on, so that another sampling may soon follow; and should the anticipations I entertain prove correct of your opening good ground at the junction of the tin and copper lodes by the 10 fm. level, the mine will shortly be in a position to bear its own cost, at any rate, if not to work to a profit." —J. HODGE: Sept. 29.

**WEST SORTIDGE CONSOLS.**—The lode in the 10 fm. level is still large and strong, but not rich; from its appearance, I think we shall have an improvement ere long. The lode in the stopes is producing moderate tin work. The ground in the cross-cut south of engine-shaft is just of the same character, but the water is more in the present end, and I hope in a very short time to report having cut one of the lodes. —J. PAVON: Oct. 3.

**WHEAL CREBOR.**—On Saturday last, our monthly setting-day, the following work was set:—The 54 end to drive east by six men, stented 4 fms., at 4s. per fm.; this end is now through the cross-course, and part of the lode seen the east side of the same—carrying good stones of ore. The 44 end to drive east by two men, stented 2 fms., at 6s. per fathom. A stopes to the east of Rundle's shaft, west of Stocker's winze, to the back of the 34, by two men, stented 4 fms., at 2s. per fm.; in shooting down some of the lode in this winze, left shaft, we broke some large rocks of ore; they have to bring up a dead stop of ground first, to throw the lode open; when completed I hope to be able to let another stop east of the winze. Rundle's shaft has been sunk in the past month 2 fms. 4 ft. 3 in. (now below the 54 end 4 fms. 3 ft. 6 in.), ground favourable for sinking, and congenial for ore. The 54 end has been driven in the past month 7 fms. 1 ft. 11 in., and intersected the cross-course, and set to a good improvement shortly. The end is within 40 fms. of Gill's shaft. The 44 end has been driven in the past month 1 fm. 4 ft. 1 in.; no change to notice. Stocker's winze has been cleared the past month 6 fms. 2 ft. 2 in., the lode large and ore, standing whole to the south; now let for stoping on tin-work. Tribute pitches much as last reported. Our engine, pitwork, and all other machinery is in good working order. —W. DOBLE: Oct. 3.

**WHEAL GRENVILLE.**—The 85 fm. level has been driven during the past month 2 fms. 3 ft. south, and is now extended south from the main lode 9 fms. 4 ft. The character of the granite is much the same as I have before stated, and is re-set to six men, at 11s. 10s. per fathom, for 3 fms., or cut the lode. The 70 fm. level has been driven this month 2 fms. 1 ft. 9 in. north. We have driven more than 3 fms. in an elvan, the colour of which is lighter than it was, and not quite so hard—stand in 13 ft. per fathom, stented 2 fms. 9 in., or cut the lode. We have cleared up the Newton engine-shaft, and sunk it 2 feet, which is nearly all in granite, that is of a soft and very congenial nature for making ore, which I am strongly of opinion it will do, after the lode has become a little more settled in the granite. We have set the shaft to the 30 fm. level, or the month, at 17s. 10s. per fathom, after which we shall drive a short cross-cut, to intersect a branch which we expect is standing to the north of the shaft. We have set the ends in the 18 fm. level to drive east and west, by four men each. From the latter level I broke some good stones of tin to-day, and I have given the men small tributes, to take as much ore as possible of the tin they may find. —G. R. DODGE: Sept. 29.

**WHEAL GUSKUS.**—The 60 west of engine-shaft, on Guskus lode, is worth about 8s. per fm. The stopes in back of said level, both east and west of Rowe's winze, is worth from 10s. to 12s. per fm. The 30, west of Rapson's shaft, on Martin's lode, is worth 6s. per fm. The 20, west of said shaft, is worth 20s. per fm. for tin; and in the 10 we are daily expecting to reach the tin ground so recently discovered in the 20. The other parts of the mine are just the same as last reported. —G. FRANCIS: Oct. 2.

**WHEAL MARY ANN.**—Pollard's shaft is sunk 7 fms. below the 120 fathom level. The lode in the 120, south of the shaft, is 3½ ft. wide, and worth 25s. per fm. In the same level north it is 2 feet wide, and worth 12s. per fathom. In the 110 south it is 1½ ft. wide, and worth 11s. per fathom; in the same level north it is 2 ft. wide, and worth 10s. per fathom. In the 100, south of the shaft, it is 2½ feet wide, and worth 11s. per fathom; in the same level north it is 2 feet wide, and worth 8s. per fm. In the 90 south it is 1 ft. wide, producing stones of ore; in the same level north it is 8 ft. wide, and is worth 6s. per fathom. In the winze sinking under the 80 north it is 2½ ft. wide, and worth 7s. per fathom. Clynno's shaft is sunk 5 fms. 2 ft. under the 40. The stopes and pitches are producing much as usual. We sold on Sept. 29, a parcel of lead ores, computed, 75 tons, to Messrs. Sims, Williams, and Co., at 25s. 15s. per ton. —P. CLYNN, Jun.; H. HODGE; R. KNAPP: Oct. 3.

**WHEAL MARY GREAT CONSOLS.**—The engine-shaft is down 10 fms. 2 ft. below the 62 fm. level. In the 62 fm. level west the lode has been taken down, and turned out well; the lode in the present end is still large, containing more capel and quartz, worth about 1 ton of copper ore per fm. We have set a pitch in the back of this level, west of Pollard's pitch, at 3s. in 1s. The 62 fathom level east is without alteration. The lode in the 25 fm. level, which is now being driven, produces good stones of copper ore. The pitch in the back of the 50 fm. level continues to yield about 3 tons of ore per fm. —THOMAS RICHARDS; JOHN TAYLOR: Oct. 2.

**WHEAL MAUDLIN.**—The water is into the 20, so that there cannot be anything done there until winter or rain. The men have been employed costeaning in the



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### Notices to Correspondents.

**DALGARVILLE MINING COMPANY.**—Sir: Shortly after this unfortunate company held their last meeting, Capt. Barrat, through the medium of your columns, published a letter, calling upon the directors to verify certain statements; this they never replied to. Are we to infer from this that Capt. Barrat's allegations were correct? I understand that a several of the miners speak highly of the property. In Sweden a registry is kept of the produce of all the mines. This is done by Government officials, attached to the Berg Collegium, who have no interest either one way or the other, and therefore likely not to be unduly biased; yet, without giving the property a fair trial, it was abandoned. It is this, and like affairs, that throw so much discredit upon mining generally. —A SEVERE SUFFERER: Broad-street.

**T. C. S.** (Gloucester-place).—That smelting abroad can be carried on to a profit, though not to such an extent as in England, past experience has shown us. We have been confidently informed that one company, which is supposed to be well managed, is losing 3 per cent. in the slags. The ore should be brought to the smelting-works. It would be too great an expense to transport coals, materials, &c., upwards of 90 miles, through an upland country.

**THE BRITISH ASSOCIATION.**—Sir: Your correspondent, Mr. Hopkins, has written a great deal in your valuable Journal on mines and mining, and which has tended to correct much of the jobbing abuses carried on in that and other speculations. From what I saw of the proceedings of some of the parties connected with the British Association in this town, I believe there is as much jobbing connected with it as mining. The meeting appeared to me like a gigantic advertising van, in which a few individuals parade themselves. I observed a few honourable exceptions in some of the sections, but, as a whole, the reading of papers and promotion of science appeared to me a mere farce—a mere excuse, to magnify the value of the labours of a few individuals in the eyes of those who may not be competent to judge for themselves. —G. M.D.: Glasgow, Oct. 1.

**WEST PHOENIX MINE.**—In reference to the letter in last week's Journal, we have had, the particulars of the late meeting forwarded to us, together with the circular announcing the next, to be held on Friday, and which certainly show that the business of the company is transacted in a very regular manner. The remark of Mr. Topham's complaint must have arisen from other reasons than a disinclination to afford particular information, which, we feel assured, does not attach to the management of West Phoenix.

**INDUSTRIAL PATHOLOGY.**—Sir: In *Chambers's Journal* of January last is an article on Industrial Pathology, commencing with these words:—"About 250,000 people are this day working underground in the mines of England; of these 30,000 are doomed to untimely death. This is not a mere conjecture; it is an average of the casualties of past years." Of what use, then, are the words, frothy reports of the half-dozen Mine Inspectors, commented on in your last Journal? Of what use are these six Mine Inspectors? And more serious question of all, of what use are the Acts of Parliament which touch on the matter? By the showing of the Inspectors themselves, their mission of no manner of use. The Acts of Parliament protect the lords of the soil; they protect the powerful lessors in a high degree; but they give no protection whatever to the poor miner. These are truisms, Mr. Editor, and you may not like to publish them; but rest assured that, if something be not done, England will want underground operatives in less than 20 years. Multitudes are, and have been, leaving our shores for countries where they meet with less danger and more genial employment. —A VIEWER: Oct. 5. (We have never hesitated in publishing the communications of "A Viewer," or others, only when we considered individuals were too particularly referred to, and shall be glad if our correspondent continues his remarks, treating generally on the subject.)

**WELSH RENDLER.**—"A. B." (Dublin).—This mine is divided into 1000 shares, 4s. 6d. each. It is a copper mine, adjoining Rosewarne, and has recently sold some copper ore from the old level, which realised a good price. The mine is situated in Gwynne, Cornwall, and the manager is Mr. Rutherford, of the Rosewarne. The Copper Bottom Mine, referred to by our correspondent, is in the salt; but the present adventures are now working upon a parallel lode. From the respectability of the parties principally engaged in recommending the shares, it is expected to be a profitable undertaking.

**"G. G." (Lincoln).**—A mail is expected in from California next Monday or Tuesday, when it is anticipated important advices will come to hand. The meeting will be held on the last day in the present month.

**ASTURIAN MINING COMPANY.**—Sir: The shareholders need not particularly enquire after the location of Mr. William Campbell Gillan; let them look in the first place to his co-trustee, Mr. Samuel Amory, of Throgmorton-street. This gentleman has a *bona fide* claim, and, no doubt, if applied to, would be able to assist the shareholders in their present dilemma. No time is to be lost: in five months, unless means are adopted, owing to the cleverness of the trustees, property on which upwards of 200,000*l.* of British capital has been expended will pass into the possession of a *clandestine* buff of the Italian stage. Know Nothing: Cornhill, Oct. 4.

**NORTH ROSKILNINE.**—Mr. John Bull congratulates "A Shareholder" on the happy comparisons which he has introduced between the rich and poor mines, including the above; and begs to assure him that Mr. Bull wishes him a rich mine. —Chambers, Oct. 2.

**CONTRACTS IN MINES.**—Sir: Your correspondent will, or may, find that the contracts for works in mines bear a better analogy to railway contracts than he appears to perceive. When a company of men—"a party"—take a shaft to sink, they provide every material for the works, such as candles, picks, gads, borers, drawing the stuff, powder, &c. Of course, they do not pay the mine agents, any more than a railway contractor pays the company's secretary, clerks, directors, office expenses, and engineering, &c. —JOHN BULL: Cornhill, Oct. 2.

**CARROCK-DEWS MINING COMPANY.**—Sir: Some time since the shares in this mine were quoted in your List at 1*l.*; they now stand at 1*l.*, and I believe are not saleable at that price. The mine, according to all accounts, is a good one; ores have been sold; yet the scrip is at this low rate. Many mines that have not sold ores are in a better position. Who are the directors? what are they doing? Surely, if they are not competent to their task, let others be appointed. From all I learn, they are not competent to the management of the mine, as it appears from their want of knowledge, they have in some measure placed the mine in abeyance. If they, or the secretary, do not call a meeting, the shareholders should take the matter in their own hands, and decide upon taking some steps. Unless this is done, the mine will surely pass away from them. Their apathy has been astonishing; no public meetings have been reported since February last, when all was *colours de rose*. Since then ores have been realised, and there is evidently in the superintendence of this concern more than meets the eye, and which should be strictly enquired into. —A SECURITY, BUT FORTUNATELY NOT A SHAREHOLDER.

**TASSAN LEAD MINE.**—Several of the shareholders were disposed to wind up this adventure; but the majority of shares being held by parties resident in Bradford, they determined to advance additional capital to carry it on, and the management, which, we understand, is to be most vigorous and economical, is now removed from London to Bradford.

**CAIROUCH COSSOL, OKEL TOR, AND MR. CRADDOCK'S ENGINES.**—Sir: I beg to congratulate the adventurers in Cairouch Consols on their success after their perseverance, amongst whom the chief is, I believe, Mr. Bayley, of Plymouth. I inspected this mine two years since with a mining agent, and formed a strong opinion of it and Okel Tor. This, again, shows the certainty of mining; I have publicly expressed my views thereon often. Mining, Sir, will, on its natural merits, take a position Nature designed for it, if adventurers do their part. Is there a cause for every result, and none for this? Many causes, it may be replied, contribute to a deposit of ore; then, the greater need of study, which is justified, if the results are proportionate to the study required. Let us look if other causes do not often contribute to ill-success in mining—the extravagance caused by want of thought when a mine is first started.

Though foreign to this subject, I hope Mr. Craddock's time is coming. I asked a friend who has seen that gentleman's steam engines what he thought of them. His reply was such as to decide (what I long before thought of) me in giving them a trial in unwatering an old and valuable mine, in the course of a short time. —L. H.: Bideford, Oct. 4.

**LANE BATHURST GOLD MINING COMPANY.**—The shareholders should long since have taken some determined steps to protect their interests. The case of Irons v. Harvey fully disclosed the position of this abortive association, and had proper energy been displayed, the proprietary would not have been placed in their present unfortunate dilemma. It is questionable whether the railroads will return anything to the shareholders. It is true there were respectable names in the direction, but what did they know of the resources of Australia? A knowledge of mining, or its principles, was not required, although it ought to be; when such takes place it is the exception, not the rule.

**GROUX'S SOAP COMPANY.**—Sir: Pray send one of your gentlemen to Groux's Improved Soap Company's meeting, to be held next Tuesday at the London Tavern, when the investigating committee's report will be read. —A SHAREHOLDER: Oct. 4. (On former occasions, we have sent a reporter, but he has been refused admission to the meetings. We will, however, send a representative on Tuesday, when "A Shareholder" and his friends should interest themselves in affording him an opportunity to report the proceedings.)

**"Can fill."**—The evils complained of, such as the unsatisfactory state of the accounts, the puffing of shares, and the favouring of merchant in the locality, by allowing them to sell materials to the mines at their own prices, is no doubt, highly to be deprecated; but the shareholders are principally to blame. They do not enquire whether dividends are paid out of capital; so long as they receive glowing reports they are content; it is only when the bubble bursts that they are disappointed. At the time the surplus balance was declared, the cost-sheet and merchants' bills should have been produced, and the report should not have been adopted until this had taken place.

**ROYAL SANTIAGO MINING COMPANY.**—"J. H." (Macclesfield).—The directors have made a call of 1*l.* per share, to be paid on or before November 29th next. By the company's deed, shareholders who do not pay within 30 days from that date will have their shares absolutely forfeited.

**ANTIMONY IN SCOTLAND.**—"S. W. and Co." (London).—This metal has been found in various parts of Scotland, but we cannot learn that it has ever been worked to a profit. We are informed that samples have recently been received in London from Argyshire, which, no doubt, are those referred to by our correspondent. They come from a spot which, although never previously wrought, is likely to prove remunerative to the parties by whom it is developed, as large quantities have been obtained almost on the surface, and the quality of that we have seen appears excellent. We expect to receive all particulars shortly.

**CARRACK DEWS UNITED MINES.**—In the Ticketing Paper list of copper ores for sale on Thursday next appears "Carrack-dhu, 32 tons;" it should be "Carrack Dews United, 26 tons."

**"A Large Speculator in Mines."**—It is but justice to state that, though Mr. Stainby had a great number of mines conducted in his office, every information and facility was always afforded to our reporter; consequently, there was scarcely a meeting that was not fully detailed in our columns. Since that gentleman's unfortunate failure, however, the mines have been distributed amongst various other offices; and our correspondent is right in referring to the article in last week's Journal, headed "How some Mining Companies are Conducted," to show the cause of objection to our reporters being present. Though the meetings referred to are never advertised, surprise may certainly be expressed that shareholders who invariably receive notice, and particularly such gentlemen as Mr. C. Buris, jun., should not forward an intimation of meetings to this office, when he knows that it is highly desirable the proceedings should be published; and the shareholders would then have the power to prevent the representatives of the press being refused admission. In conclusion, we advise shareholders, whenever they suspect certain parties are desirous that the proceedings should be suppressed, that they should send notice to this office, when, if our reporter were excluded, the motive would be apparent.

**BRACED BARTER.**—Sir: Can any of your readers inform me where there is a sale for this article; if so, the quantity they could take, the price per ton, and where to be delivered? —EDWARD PLATT: Manchester, Oct. 3.

**KIERICKEN MINE.**—"Inquirer" (Dublin).—We cannot give any satisfactory information as to this mine, but, on enquiry, we are informed it is not "in fork." It would be invidious to answer the latter queries of our correspondent; he must judge for himself from what has recently appeared in the columns of our Journal. The party mentioned belongs to the firm named.

**SOUTH BOG MINE.**—Sir: Respecting South Bog, of which I perceive a paragraph in your Journal of last week, from Dr. Duncan, I beg to say that I did not authorise any one to tender any defence on my part—neither did Messrs. Powell and Cooke—for exercising a discretion in selling our shares. We were not promoters, but bought into and sold out of the company as our judgment led us; and the reason for our sale was previously well known to all shareholders who attended the meetings of the company. —ADAM MURRAY: 76, Cornhill, Oct. 5.

**WELSH POTASH.**—"A Miner" (Cardiganshire).—We have been informed that Mr. T. W. Wilkinson has prepared a report, but it has not been forwarded to us for publication. We are also informed that another dividend is talked of, but of this we hope to give further particulars in our next.

**AUSTRALIAN COLLIERY GOLD MINING COMPANY.**—The promoters of this company were Mr. W. Trotter, of the Chancery-lane Freehold, and Mr. Edward Callow, formerly of Joyce Green, Dartford. This company, like many of its associates, was illegally constituted, and it is questionable whether any returns will be made by the directors. The proprietors now complain that they have lost their money. At the time of the gold mining mania we warned them of several of these delusive schemes; our voice was unheeded, and the public are now suffering from the blind confidence they displayed in the several dubious projects then brought forward. Many of them were projected in good faith, but the failures that have taken place show the majority of them to have been concoctions of ignorance and knavery.

**DUNTON IRON ORE COMPANY.**—We can only consider the matters in dispute between Mr. Lucas and the directors as *personal*, and, therefore, decline inserting any communications referring thereto, otherwise than as advertisements. Mr. Higgins, in reply to Mr. Elliott, respecting the Northamptonshire Iron Ore, shall appear in our next Journal.

**SOUTH ROBERT AND SORTIDGE UNITED.**—Sir: In last week's Journal, Capt. Williams joins in the controversy respecting the Yenoton iron-ore case passing through this seat. I think it a settled point, as I have not only given my opinion, but an undeniable proof, which every unbiased person, on examination, will find to be correct; and, according to my judgment, the line of Lady Bertha lode is a long way south of South Robert, &c., &c. But it is quite ridiculous to state where a lode passes, which is only proved four or five miles away, as the country here so abundantly will large slides and cross-courses. My remarks are made in the hope of preventing fallacious reports, which prove so disastrous in the mining field. —P. H. BARRATT: Tursilock, Oct. 4.

## THE MINING JOURNAL.

### Railway and Commercial Gazette.

LONDON, OCTOBER 6, 1855.

We have recently noticed, in terms of pleasurable approbation, the growing taste which prevails amongst the mining proprietors, not only to improve the social condition, but also to impart to the coal and iron mining population the advantages of practical and essentially useful education. In the early part of the present year, Mr. JOHN HEDLEY, who had long devoted his attention to this important national object, was deputed by a committee of the ironmasters and coal owners of the south-west of England to visit the mining districts of that quarter, and to report to the body generally, what measures appeared to him advisable to be adopted for the improvement, both practical and educational, of the sub-managers and workmen of mines, those of coal in particular. The result of his enquiries and investigations has been embodied in a report, addressed to the ironmasters and colliery proprietors of South Wales, Forest of Dean, Bristol, and Somersetshire, "On the Prevention of Accidents in Mines, on the Formation of a Mining Institute, and on Improving Managers, Bailiffs, Overmen, and other Mine Officers and Workmen." This unpretending publication embraces a variety of subjects, and relates to a mining district daily unfolding its mineral resources, and rising fast into importance.

The improvement of overmen forms, in the first instance, a prominent feature in the report; and, while he doubts the practicability of improving them at a mining school, after several years' experience in the management of collieries, and having paid much attention to the subject, we have here the deliberately expressed opinion of Mr. HEDLEY, that this valuable class of mine managers must, from the beginning, after having had a plain education, receive a training in connection with their daily labour, and, as it were, engrafted on it. With a view to attain this object, it is recommended that every attention should be paid to the education of workmen's children, until the lads shall attain 13 years of age, or at least until they can read, write, and understand accounts; and that evening schools should be opened for adults. A yearly distribution of prizes for efficiency, as suggested by Mr. TREMENEER, would induce parents to send their children, and secure regular attendance, with good conduct, such a system having been found to work well in North and South Staffordshire, and Shropshire. The report earnestly inculcates that plain lectures should be given periodically, through the mining districts, on subjects connected with the miner's occupation, the varied dangers to be apprehended, and the means of avoiding them; and that these lectures should, if possible, be delivered at the colliery. Plain lectures on the application of science to mining, accompanied with illustrations familiar to working men, and also on the principles of ventilation, and the different systems of working coal, are also recommended. In connection with colliery schools, dialling and plain mapping should be taught, for the benefit of this class of managers; and the establishment of reading-rooms and scientific mining libraries in all large works would be highly desirable. Mr. HEDLEY also suggests the formation of collections of minerals, fossils, and natural curiosities of the district, to be collected by the lads and workmen, with specimens of all the varieties of ironstone, and descriptions of the formations in which they have been found, whether stratified or vertical. The formation of local societies of overmen and other officers, in connection with the intelligent workmen in mines, would furnish opportunities of acquiring information on the variety of subjects which bear upon the safety and economy of mining. We are assured that several mining agents and managers have tendered their co-operation for the formation of such societies, and specified places are named as suitable localities for their institution. In his tour through the mining districts, Mr. HEDLEY delivered several lectures to large and attentive audiences of the mining population, on subjects connected with their occupation; and although he regrets that the proportion of workmen able to read is but small, he assures us that he found much anxiety manifested amongst them to acquire information; and to meet the pressing wants of enquiring minds amongst them is the aim and object of his recommendations.

The report contains some valuable information respecting the collieries of South Wales, in which district many of those working coal seams by levels are becoming exhausted. In these works little, if any, gas has hitherto been met with; it has generally drained off where the seams are exposed, or crop out on the sides of the hills; but many workings are now being made to deep seams, in which much fire-damp will be found, and large quantities will probably be suddenly evolved. Men who have all their lives worked in non-fire mines will have to work in these deeper seams; it is, therefore, very important to make them acquainted with the sources of danger, and increased depth will require the works to be opened on more extended scales, in order to raise quantities commensurate with the expense. More extensive operations will demand more overmen, and it is essential that their increased number shall be qualified to conduct more enlarged and dangerous mining operations with safety and economy. The seams in South Wales are nearly flat, except at the south side of the basin, and other localities disturbed by faults, and the general system adapted to flat seams will not be found suited to those of great inclination. In some of the collieries at the south side of the basin a good system of working steep veins has been introduced by the managers, yet a more general knowledge amongst overmen of the plans of working both flat and steep seams in other districts is required, and there are some seams of ironstone which may be advantageously worked by long work. Every coal field has its peculiarities and circumstances, and although this mode may not necessarily supersede the existing one, its simplicity and economy are strong reasons for its adoption.

These important districts raise upwards of 12,000,000 tons of coal and ironstone annually, and as operations extend into deeper and more fiery mines, it will be necessary to select higher class managers to advise and direct the overmen. It is also desirable that superior managers should have practical training in their own districts, and as the coalowners and viewers at Newcastle-upon-Tyne are organising a Mining Institute on an extensive scale, in the opinion of Mr. HEDLEY, the mining districts of the south-west of England are sufficiently extensive and important to establish and support a similar institution. While he acknowledges that the Government School of Mines in Jermyn-street is conducted by some

of the best and cleverest men of the day, he deprecates that it is too remote from the districts on which he reports, to be generally attended. The selection of some central locality is, therefore, recommended, with lectures to be given at stated periods throughout South Wales, the Forest of Dean, Bristol, and Somersetshire, three or four times during the year. Government will probably give assistance towards the support of mining institutes, and other means for improving the official management of mines, but the efforts of the mining interests would tend still more to create local exertions for the promotion of this desirable movement.

"The Growth and Commercial Progress of the two Pacific States, California and Australia," formed the subject of an important and interesting paper, read before the British Association, at Glasgow, by Mr. P. L. SIMMONDS. The history of the gold fields of another hemisphere, their influences, both present and prospective, and the variety of aspects in which they have been viewed, have been repeatedly presented to the public; but Mr. SIMMONDS's known connection with the London press as the City correspondent of the *Globe*, and the attention he has devoted to statistical and commercial enquiries, entitle this elaborate essay to peculiar notice, and we are glad to be enabled to make the following abstract. The fabled El Dorado, so long sought by the Spaniards, has been more than realised in the veritable gold regions of our days, which in the brief space of about seven years have added an aggregate value of nearly 130,000,000*l.* sterling to the gold previously in circulation. The circulation of this accumulated wealth is, perhaps, the smallest portion of the benefit which the nations of the earth are likely to derive from its discovery, when compared with the stimulus it must impart to commercial enterprise, the new fields of industry it must open for honest labour, the profitable markets it must unfold for British and foreign merchandise, and the scientific and practical improvements it must introduce in ocean steam navigation. The startling discovery of the vast metallic and mineral wealth of California attracted to its shores in the space of 12 months, in 1849, more than 100,000 people, 80,000 of whom were Americans; and an extensive commerce has since sprung into existence at San Francisco with China, the ports of Mexico, and the islands in the Pacific, Chili, and Australia. At the close of 1853 the population of California was estimated at 328,000 persons, the value of the imports at 7,000,000*l.*, or 20*l.* per head; while the export of gold amounted to 12,000,000*l.*, or 34*l.* per head, exclusive of quicksilver and other produce. At the period of the discovery of gold in California there were in the United States coin and specie to the value of 20,000,000*l.* sterling, while in 1854 the amount of specie in the banks and in circulation had increased to nearly 50,000,000*l.* sterling, exclusive of a heavy drain of specie to Europe, amounting in the last four years to 27,500,000*l.* A leading mercantile firm at San Francisco (Messrs. HUSSEY, BONN, and HALE) made some elaborate calculations of the gold produce of California up to 1853, which resulted in the following figures:—Gold deposited in the United States mints up to the close of 1853, \$219,145,000; gold circulating in California and Oregon, by careful estimates, \$19,000,000; 8 per cent. of the amount estimated to have been taken to other countries, \$39,400,000; 5 per cent. estimated for gold used in manufacturing articles or otherwise, \$10,950,000; giving the total product, \$288,495,000, equal to 57,700,000*l.* British sterling. The *San Francisco Herald* gives the following as the ascertained shipments of gold in the last four years, exclusive of the large sums transmitted through private sources:—1851, \$34,492,000; 1852, \$45,779,000; 1853, \$54,906,956; 1854, \$51,506,132—total in the four years, \$186,684,093, equal to 37,337,000*l.* sterling. There was also coined at the San Francisco Mint, last year, gold of the value of \$9,731,574, adding nearly 2,000,000*l.* sterling more to the gold production of the State.

The shipments of gold from San Francisco in the first six months of 1855 were to the value of about 4,000,000*l.*, against 5,000,000*l.* in the first six months of last year, but this is no proof of any falling off in the yield of the gold fields. Gold finds its way from the State through a variety of channels; much, however, is lodged in the banks, and even buried in the ground for safety; but making all due allowances, the mean of the various estimates gives fully 71,200,000*l.* sterling as the total yield of gold from California from its first discovery to June, 1855. One of the influences of gold in California has been already to plant a powerful and thriving commercial state on the Atlantic, destined to work a singular revolution on the shores of the Eastern Archipelago and of Asia. It has already congregated together thousands of thrifty and plodding colonists, opened a trade with the hitherto sealed empire of Japan; and while it all spreads the wings of commerce over the Pacific towards the extensive shores bounded by that ocean, it is also drawing an overland traffic over heretofore untraversed continents. It has led to the construction of a railway across the Isthmus of Panama, thus uniting the increased commerce of both oceans, and must speedily open up fresh channels of communication by steam with this country, with Europe, and the world at large.

Crossing the Pacific, we next briefly observe what gold has effected for Australia, and we regret that our limits prevent us from following Mr. SIMMONDS through his elaborate and valuable details, and oblige us to confine ourselves to the gold produce alone. The estimated population of the various gold fields of Victoria on the 19th of August, 1854, was given at 111,735 persons, of whom 77,500 were men, 16,555 women, and 17,630 children, about one-third of them were engaged in the search for gold. The gold produce of Victoria, taking the estimated value, for simplicity of calculation, at 4*l.* per oz., was for last year, in round numbers, 23 ozs. per head, which would give to each of those 77,500 men at the diggings about 113*l.* per annum; of course, many received larger sums, but the average was, consequently, less. The estimated value of gold, the produce of the gold fields of Victoria, up to June, 1855, would appear to be 44,143,384*l.* The gold brought in by escort to Melbourne was, in 1853, 1,964,153 ozs.; in 1854, 1,738,098 ozs. A blue-book, recently published, gives the quantity of gold exported from Sydney up to June, 1854, at 1,661,355 ozs., which, at 4*l.* the ounce, would be worth 6,645,420*l.*, but was only there estimated at 5,399,350*l.*, the colonial price. The net quantity of gold exported from the two colonies, Victoria and New South Wales, between the 29th of May, 1851, and the 30th September, 1854, was estimated at 7,886,509 ozs., valued at 27,975,419*l.*, while the true value would be about 31,516,036*l.* Last year the banks doing business in the colony held a stock of coin and bullion exceeding 2,500,000*l.*, deposits of about 5,000,000*l.*, paid-up capital of 3,000,000*l.*, and had divided profits ranging from 8 up to 40 per cent. per annum. The gold diggings of New South Wales, although less prolific than those of Australia, according to a careful comparison which Mr. SIMMONDS had made, returned nearly 170*l.* as the year's earnings for each digger in 1853. As the average produce for the number of men employed was 42*l.* ozs., 250*l.* each would be nearer the mark; and some of the colonists assume 73 ozs. as the average find per head, which would give nearly 300*l.* The total gold exported from Sydney up to the close of 1853 amounted to 1,625,256 ozs., but some of this had been brought from the Victoria gold fields, and it is difficult to distinguish the separate produce. The value of the gold shipped from Sydney, up to March, 1855, was nearly 7,600,000*l.* The total value of gold which must have reached Adelaide from the Victoria gold fields amounted to nearly 3,250,000*l.*, and at the London price of 4*l.* the ounce for Victoria gold, the value would be enhanced fully another quarter of a million.

This colony is rich in other valuable mineral produce, requiring but steady labour to bring it to the surface. There are now 49 reported mines in South Australia—seven lead, two silver-lead, one gold field, and the rest copper. Only seven, however, of those mines were in operation at the close of the last year, mainly in consequence of a deficiency of available skilled mining labour. In the six years ending with 1850 the metalliferous deposits of the province had yielded 115,520 tons of copper ore, worth, at 15*l.* per ton, 1,732,800*l.*; and 2429 tons of silver-lead ore, worth, at 12*l.* per ton, 29,148*l.* One of those Pacific States, the advance of which was thus illustrated—viz., California—had been entirely founded by the gold discoveries; while the other, although colonised some time previous, also owes its remarkable commercial advancement to its prolific gold fields; and the contiguous island and continental settlements of Australia have shared more or less in the wonderful prosperity of Victoria. Within the last seven years a population of about 330,000 has settled in California, and the result of their labours has been a gold produce of 71,200,000*l.* In the last four years an addition has been made to the population of Victoria and New South Wales of about 250,000 persons, and the gold they have obtained has amounted to 51,662,794*l.* Amongst the most prominent benefits which the gold discoveries have conferred upon Australia, we may record that they have led to the cessation of transportation to Van Diemen's Land, to the separation of Victoria from New South Wales, to free institutions and independent government for the colonies at the Antipodes. Gold has enormously increased the revenues of those colonies, and enabled them to place large sums in the hands of the Emigration Commissioners to promote bounty emigration, by the dispatch of several shiploads every month, besides swelling the tide of private emigration; and



while it has given active employment to our manufactories, it has filled the harbours with busy fleets of ships from every country in the world. Mr. W. WHITEHOUSE read before the Association a paper of much interest, not only from its intrinsic value, but from the nature of the subject which it proposed to illustrate, and which he termed "Experimental Observations on an Electric Cable." After referring to the rapid progress in submarine telegraphy which the last four years had witnessed, Mr. WHITEHOUSE observed, it may be now regarded as an established fact that the nautical and engineering difficulties which at first existed had been already overcome, and that the experience acquired in submerging the shorter lengths had enabled the projectors to provide for all contingencies affecting the greater. Our insular position, the distances which separate us from our colonies and dependencies, lead us to enquire—are these remote families of the earth, or rather members of our own families, accessible by telegraph? or are they to be forever denied the advantages which we enjoy? Society is eager for unlimited telegraphic extension; in America as well as in England capitalists are ready to aid in the stupendous work of an Indian or transatlantic line. They wait only to be assured that it is practicable—commercially practicable—and capable of working at such a speed as will admit of communications being sent at a low tariff.

The attention of the section was then drawn to a series of experimental observations which Mr. WHITEHOUSE had recently made upon the cables intended for the Mediterranean and Newfoundland, before they had been forwarded to their respective destinations. These cables contained an aggregate of 1125 miles of insulated electric wire, and the experiments were conducted with reference to the problem of the practicability of establishing electric communication with India, Australia, and America. The results were recorded by a steel style upon electro-chemical paper by the action of the current itself, while the paper was at the same time divided into seconds and fractional parts of a second, by the adoption of a pendulum. This mode of operating admitted of great delicacy, as the seconds could afterwards be divided into hundreds, by the use of a "Vernier," and the result read off with the same facility as a barometric observation. Having stated the precautions to be adopted against error, the details of the results were then concisely given, including those respecting velocity, which showed a much higher rate attainable by the magneto-electric than by the voltaic current. Attention was then specially invited to the following facts, and the deductions from them: First, the mode of testing velocity by the use of a voltaic current, divided into two parts—a split current—one of which shall pass through a graduated resistance tube of distilled water, and a few feet only of wire, while the other part shall be sent through the long current, both being made to record themselves by adjacent styles upon the same slip of electro-chemical paper. Secondly, the use of magneto-electric turn currents, synchronous in their origin, but wholly distinct in their metallic circuits for the same purpose, whether they be made to record themselves direct upon the paper, or to actuate relays or receiving instruments, which shall give contacts for a local printing battery. Thirdly, the effects of induction, retardation of the current, and charging of the wire, as shown autographically in contrast. Fourthly, the rapid and forcible discharging of the wire, by the use of an opposite current. Fifthly, the adoption of the same as a means of maintaining and restoring at pleasure the electric equilibrium of the wire. Sixthly, the absolute neutralisation of currents by too rapid reversal. Seventhly, the comparison of working speed attainable in a given length of wire, by repetitions of similar voltaic currents, as contrasted with alternating magneto-electric currents, and which, at the lowest estimate, seemed to be seven or eight to one in favour of the latter. Eighthly, proof of the co-existence of several waves of electric force of opposite character in a wire of given length, of which each respectively will arrive at its destination without interference. Ninthly, the velocity, or rather the amount of retardation, greatly influenced by the energy of the current employed, other conditions remaining the same.

Mr. WHITEHOUSE submitted to the meeting, in support of his views, facsimiles of what he termed the electric autographs, as diagrams, and the actual slips of chemico-electric paper were laid upon the table. The well-known effects of induction on the current were accurately displayed, and contrasted with those were other autographs, showing the effects of forcibly discharging the wire, by giving it an adequate charge of the opposite electricity in the mode proposed by the writer. No less than eight currents, four positive and four negative, were in this way transmitted in a single second of time through the same length of wire, 1125 miles, through which a single current required a second and a half to discharge itself spontaneously upon the paper. It appeared that no adequate advantages were obtained in a 300 mile length by doubling or trebling the mass of conducting metals.

The writer concluded by expressing his conviction, as well from these experiments as from trials which he had made, with an instrument of the simplest form, acted on by magneto-electric currents, that the working speed attainable in a submarine wire of 1125 miles was ample for commercial success. It may, therefore, be fairly concluded that America, India, and Australia, are accessible by telegraph without the use of wires larger than those commonly employed in the submarine cables now in use.

The present position of the LINARES LEAD MINING COMPANY affords to both directors, managers, and shareholders much subject matter for satisfactory congratulation, more especially when the proceedings of the company are regarded under the existing depression to which the mining interest at large is more or less subjected. Numerous were the difficulties which had to be surmounted in bringing the Pozo Ancho Mine and Works into a remunerative condition; it is, therefore, no small gratification to be made acquainted with the fact that a vast improvement is visible throughout every department of the mine, more especially in the eastern portions, which have opened, and continue still to unfold and develop, large reserves of ore. The 65, the 75, and the 85 fm. levels are advancing towards the richest portions of the work, and in their progress have intersected even another course of ore. Thus, it has been found that not only have the capabilities and resources of the entire mine become progressively extended, but even the investigation has amply established that the Pozo Ancho Mine is capable of yielding products far beyond those which have been realised. The reserves of ore exceed 13,000 tons, which are more than those of any other period. From the necessity of smelting the large accumulation of lead ore already at grass, the quantity recently raised is not so great as otherwise it would have been; nevertheless, the average monthly returns have reached 328 tons; and when a reduction of this stock of ore shall have been made by smelting, and thus brought within much narrower limits, then brighter prospects may further be anticipated. Not only has the working power of the mine been placed on this substantial footing, but even the smelting power has been augmented to a very great extent, and now is equal to the reduction of all those quantities which are at present raised, but, when in full operation, to the production of no less an amount than 750 tons per month. Whether, therefore, the improvements which have been effected upon the property are considered either in relation to their working condition or their smelting power, they are equally satisfactory; consequently, of necessity, the Pozo Ancho Mine must gradually become more and more valuable in proportion to the energy with which these workings are directed, since the resources of the mine have been found adequate to almost any yielding, provided facilities of transit are extended and secured, so as to accomplish the quick delivery at port of the ample and intrinsically valuable products.

The last accounts show the stock of lead ore in possession of the company to be worth 50,135*l*. 1*s*. 1*d*., which at the corresponding period of the previous year amounted to 36,048*l*. Large as this first-named amount may appear, it would have been far greater had not the raisings been kept down during the latter portion of the interval referred to, on account of the prior accumulated stock, which had swollen to a somewhat cumbersome and inconvenient amount, by reason of the various obstructions to the adequate transport and delivery of the smelted metal at port for shipment, as well as to the return of coal for smelting. These impediments have arisen—first, from the unusually high price of barley in the south of Spain; and, secondly, from the rapid rise in the value of mules, both of which have been caused by the demand for the Crimea. Although the stock on hand may have increased to the extent which the previous figures exhibit, and although the surplus may exist as a dead weight against the whole concern, still the amount which is now represented has been realised, and only remains for time and opportunity to bring it to account. If, however, deficiency of transport, scarcity of fodder, and insufficient means of transit, do exist, it should be remembered that the bulk is held upon a rising market. At the quarterly ticketings, in September, 1854, at the King's Head, Holywell, the highest price of lead ore was 13*l*. 1*s*. 6*d*. per ton, which, at the ticketing on Sept. 27, at the same place, realised 17*l*. 6*s*. 6*d*. Even under existing circumstances, there were smelted during the last

six months 2573½ tons of ore, which realised 1586½ tons of lead. With such prospects before the company, after having undergone the expense attendant upon the erection of the new smelting-houses, reverberatory furnaces, shafts, and all accessories, they are promising even at the present period, as shown by the payment of a dividend of 10*s*. per share. If, therefore, the organisation of a more perfect system of intercommunication only proceeds simultaneously with the general advancement of the efficiency of the mine and workings, so that the production and shipment may be more in accordance one with the other, augmented returns will most assuredly follow. By these means, the supply of fuel from the neighbourhood of Cordova, and the coal fields of Espiel and Belmez, will be extended, and the cost of smelting will be proportionately diminished. The construction of the projected railway from Cordova to Seville, in its result, will shorten the distance from the mines to the port, and at the same time afford the means of conveyance for upwards of half the distance. With these combined advantages, there exists the most flattering prospects of realising accumulating results from these already efficient workings, which eventually must insure a high position for the Linares Lead Mining Company amongst the dividend-paying mines.

The TAMAR SILVER-LEAD MINING COMPANY'S annual meeting was appointed for Monday last, but adjourned until the 29th instant. The admirable manner in which this mine has been conducted under the new management, clearly proves that many mines which have dragged on for years in difficulties ought to be good dividend-paying ones. It is only necessary to refer to the special general meeting held on the 6th August last, reported in the JOURNAL of the 11th, to show the great improvement that had been effected in a few months; and, as it was then stated, well may the shareholders congratulate themselves upon the improved aspect of their affairs. In three months, under the local management of Mr. WOLFEASTAN, the profits, after payment of considerable expenses for machinery and repairs, were 451*l*. 1*s*. 3*d*. They had paid off old liabilities amounting to 2251*l*. 18*s*. 8*d*., had brought the balance of interest account from the debit to the credit side, and did not owe a farthing—a circumstance unprecedented in the annals of this mine.

Mr. W. J. DUNSFORD, the chairman on the present occasion, intimated that the directors were determined to pursue the same strict course with their accounts, and present nothing in the shape of estimate; and for that purpose they had agreed to adjourn the meeting until the 29th inst., when the directors would be able to lay before the shareholders a true and faithful account of their position to the latest possible period. We are glad to add, from information obtained, that at the adjourned meeting the financial statement will be most satisfactory.

A case came before the House of Lords during the last session of Parliament of importance, not only to colliery proprietors, but also to the public, and which, while it furnishes another instance of the imperfect constitution of our highest appellate court, cannot but be deemed a reproach on our system of jurisprudence. The case to which we refer was *FINNIE v. THE GLASGOW AND SOUTH-WESTERN RAILWAY COMPANY*, and was an appeal from the Court of Session in Scotland. The appellant was a colliery owner or lessee, residing near a branch line, the Kilmarnock and Troon Railway, and whether he sent his coals entirely along this branch, or partly along the branch and partly along the main line, he was charged at a higher rate than those residing on the main line, and sending their coals from the main to the branch line. It appeared that the charges for the branch line were higher than those for the main line, yet those persons sending coals from the main on to the branch line were charged only the main line rates, while the plaintiff's had been charged the branch line rates. He accordingly brought an action in the Court below against the respondents, to recover the amount of certain alleged overcharges for the carriage of his coals along part of their railway. His object was to be reimbursed these sums, and with that view a declaration was sought as to his rights, on the ground that the company were bound to charge all persons equally who were passing along the line, while he had been unequally charged. The special railway Act regulating the charges on this branch line, enabled the company to charge such rates as they should deem expedient, but it expressly provided that no reduction or advance in any of such charges should be made partially, either directly or indirectly, in favour of or against any particular company or person. The words were nearly the same as those in the equal rates clause of the Railway Clauses Consolidation (Scotland) Act, 8th and 9th Vic., cap. 33, sec. 83, which is in this respect identical with the English Railway Clauses Consolidation Act, 8th and 9th Vic., cap. 20, sec. 90, and were embodied in the above special Act. The policy of the law, as well as the acts of the Legislature, thus clearly contemplated strict impartiality of dealing, and equality of charges. It appeared, however, in the Court below that the excess of charge was made, not for passing over the same portion of the line, but for passing over a different portion; and while it was conceded that the company could not charge one person more than another for passing over the same identical miles, it was contended that there was nothing in the Act to prevent the company from charging a different scale of rates to different persons for different portions of the line. The Court of Session conceived that the portion in question came within the view taken by the company, and from that decision the plaintiff appealed.

The LORD CHANCELLOR, in delivering his judgment before the House of Lords, concurred with the Scottish Court in the distinction between the same distance and the same portion of the line, and came to the conclusion that the plaintiff's case did not fall within the provision in question, and that the company were justified in charging him a higher rate for the same distance than they charged to others, as he did not use the same portion of the line. Even, however, supposing that the plaintiff had made out that the defendants had violated the prohibition in the Act, he could not be taken as assenting to the doctrine that they having done so, the result would have been, that the plaintiff, having paid the difference, was entitled to recover it back. He wished to guard himself against being supposed unequivocally to assent to what was supposed to be the doctrine laid down in a case before the Court of Common Pleas, on a point which would require much consideration, but which it was unnecessary to decide in the present instance. The short ground on which he went was, that the parties have not traversed over the same portion of the railway, and over the same distance, and consequently that the plaintiff is not a person who has a right to complain of the unequal charges which he says the company have imposed. He was, therefore, of opinion the Court of Session was right.

LORD ST. LEONARDS differed from LORD CHANCELLOR on every point. The second question, which was unimportant in the view now taken of the case, was whether or not the money could have been recovered back, supposing there had been an overcharge? It appeared to him that the Courts of Common Pleas and Exchequer, in the cases which had arisen against the great companies—the Great Western, and the Bristol and Exeter Railway Companies—had really decided that point. The judges treated it, not as a question of damages sustained by the man who is overcharged, so as to make it necessary to ascertain, for example, whether somebody else has carried any, and what quantity, of coals, and how much the man who has been overcharged lost in the market by not being able to bring his coals cheaper to market than the other man, but it is put upon this principle—that the company ought to maintain an equal charge; and that, if they levy an unequal toll, the person upon whom they levy that unequal toll is entitled to recover that unequal charge. Nothing can be more simple; and, although cases may be put in which great difficulty will arise in the application of the principle, no such difficulty arises here, because this was a case of palpable overcharge, upon a mistaken ground, which may be within the Act of Parliament, but which is certainly not within the principle or justice of the case. He wished, however, in the outset, to be distinctly understood as not stating a single word, or meaning to do so, which could bear against the known right, the proper right, of railway companies, of varying, according to circumstances, their charges upon different portions of the same road. It was impossible that a railway company could exist without that power: they have that power, and he did not mean, in what might fall from him, to throw any doubt upon the exercise of that power. His Lordship then entered into an elaborate review of the special circumstances of this case, and of the several clauses of the Acts bearing upon it, and came to the deliberate conclusion that the company had, in this instance, acted partially; that the judgment of the Court below had proceeded altogether upon wrong assumptions, was erroneous, and ought to be reversed.

A careful perusal of the reasons assigned in his luminous exposition of the facts and of the law, leaves no room in the mind of an impartial person to doubt that gross injustice had been attempted by this powerful company against an individual; and what we complain of is, that the unsatisfactory and inconclusive result should tend to perpetuate that injustice. The appellant, as a subject of the realm, was entitled to appeal to the

highest tribunal from a decision that he considered unjust, and which injuriously affected his rights and his property. The appellate Court, on the day his case was heard, consisted of two noble and learned lords, and of two only; and after the vast expense of bringing his appeal to the bar of the House of Peers, and having his case sustained at great cost by the most eminent advocates, in consequence of the difference of opinion between the two members of the tribunal, the appeal falls to the ground, and the original judgment of the Court appealed from stands. In other words, the House of Lords, whose adjudication was sought, gives no decision at all, and the case stands as if an appeal had never taken place.

We all remember how indignant the law members of the House of Lords were towards the close of the last session with the Solicitor-General for some well-merited observations made in the other House of Parliament on the defective constitution of the Court, and we believe it was this case which gave rise to them. Several cases of a similar nature occurred during the session; and we do not hesitate to characterise the repetition of them as a reproach and disgrace to the Legislature and jurisprudence of the country.

The GREAT WHEEL VOR UNITED MINING COMPANY had a grand field day on Saturday last at the mines, on the occasion of starting TRELAUNY'S 15-in. cylinder engine. Amongst the company assembled were Mr. H. W. SCHNEIDER, Rev. E. PRIDMORE, Messrs. H. and E. CREASE, Capt. CREASE, R.N., Messrs. C. TRUMAN, J. O. HANSON, and E. V. NEALE. The parties made a minute inspection of the whole of the works. They first went to that part of the sett where the huge 100-in. cylinder engine (CREASE'S) is employed in pumping the water from the main shaft. This engine is of 11 ft. stroke, equal beam, and has 240 fms. of 15-in. lifts, and 33 fms. of a 16-in. lift, from adit to surface, with four 14-ton balance bobs, rods and connections attached, in full work. There are seven 13-ton boilers employed, and space left for an eighth, if required, having above them a steam-chest, or reservoir, for dry steam of unusually large dimensions. The magnitude of the cylinder, and enormous size and strength of the other parts of the machine, the perfect ease and smoothness of its working, and the thorough command under which the enginemaster held it, were truly admirable. The newly-erected engine which the company met to inaugurate is called TRELAUNY'S 85-in. cylinder, and operates in a shaft of the same name; it is of the best manufacture, constructed by the same firm as the 100-in. engine—Messrs. HARVEY and Co., of Hayle, with all the newest inventions of Mr. M. LOAM, a name that will ever be honourably associated with the history of improvements in the Cornish steam-engine. The next portion of the works examined by the company were the steam-stamps, which are erected in the valley, at the foot of Tregoning Heights. The engine is a 36-in. cylinder, driving 88 heads of stamps, capable of increasing the number to 120 heads, and equal to the pulverisation of 5000 tons of tinstuff per month. Attached to these stamps are the dressing-floors, which appear to be exceedingly well arranged, on a regular system, carefully and economically carried out. Several parts of the mines, we are informed, are already working at a good profit, and as upwards of 2,000,000*l*. sterling worth of tin was returned under the late workings, and that extracted from a very inconsiderable portion of the ground, the present company fully expect, by their improved appliances of machinery, to realise very large profits. Already their returns are over 2000*l*. per month, and every fathom they sink more ore ground is opened, and the returns, they confidently believe, will be steadily increased—in fact, the whole property appears to be in a sound and healthy state.

After a minute inspection of other parts of the works, the company assembled round the TRELAUNY engine, when the Rev. E. PRIDMORE, in an eloquent and impressive prayer, invoked a blessing on the undertaking. Mr. H. W. SCHNEIDER then gave the word to put on the steam, and let her go, when the engine moved off in good style, the several bands in attendance, including the Great Wheel Vor band, sending forth their enlivening notes, amidst the cheers of the multitude. The party then retired to a large wooden shed, tastefully decorated with evergreens and flowers from Trevanno and Penrose, the seats of two of the lords of the mines, where a substantial dinner was provided, Mr. SCHNEIDER occupying the chair, supported on his right by Mr. H. CREASE, and on the left by the Rev. E. PRIDMORE. The Chairman, after giving the usual loyal toasts, which were duly responded to, gave "Success to the Great Wheel Vor United Mines, and the 85-in. cylinder steam-engine," which they had set to work that day, and which they would henceforth call TRELAUNY'S engine. He was sure that when they looked around them, and saw all that had been done since the Messrs. CREASE took up the concern, they would feel great confidence, from its present state, that a good time was coming, and he only wished they might all live to see it, and meet together on some future and no distant occasion to celebrate the full success and development of these mines. When he looked around him, and saw the state in which things were now, and reflected on what was their condition some two years ago, when the mines were taken up and set to work again, he thought they would all admit that a very great change for the better had taken place, and a great advance had been made in the prosperity of that part of the country. The toast was drunk amidst much cheering, as also "The health of the lords," and "The health of the Chairman and committee of management," which were duly acknowledged.

The CHAIRMAN having proposed the health of Messrs. CREASE, the managers of the mines, it was drunk amidst much applause. Mr. HENRY CREASE, in returning thanks, said he could scarcely express what he felt in acknowledging, for his brother and himself, the distinction their commendation had conferred on them. They had rightly said that Great Wheel Vor United was a very great concern; it was, indeed, the queen of tin mines. He spoke with full knowledge of the extent to which his words would go forth to the world. From an experience of years of anxious and careful search after the simple truth as to the past, present, and probable future of Great Wheel Vor, and after close examination of the actual sales of tin from the mines in former days, and also after numerous cross-examinations of old miners who had spent long lives underground in Old Wheel Vor, he (Mr. CREASE) said that in all the history of mining there never had been, there was not, and probably never would be, a tin mine capable of producing one-half as much tin as Great Wheel Vor United Mines, if they were blessed with anything like the same success as had up to that time attended their efforts. He would not take up their time with details, but only say that they had not exhausted or explored one tithe of the ore ground on the main lode; the "more" of tin is at the bottom, still worth, they told him, 150*l*. per fm., for 100 fms. long. He saw by the ore books, and knew it for a fact, that for months together the mines actually sold 17,000*l*. 18,000*l*. 19,000*l*., and, indeed, over 20,000*l*. worth of ore per month. The former workers never proved a side lode; they had many, and close by the main lode, within the limits of the property; they were satisfied with the almost endless wealth of the one main lode. Several other toasts, including Messrs. HARVEY, and the founders, the agents of the mine, the engineers, Messrs. HOCKIN and LOAM, and Mr. FIELD, were duly responded to, and the party separated, apparently highly satisfied.

RAILWAY COMMUNICATION IN MONTGOMERYSHIRE.—The ceremony of turning the first sod of the LLANIDLOES AND NEWTOWN RAILWAY came off on Wednesday last, at Llanidloes. As it was the first proceeding of the kind in the county of Montgomery, the novelty of the event attracted some thousands of spectators, who gave vent to their enthusiasm by repeated cheering, bands of music, and firing of cannon. This display of feeling is not surprising, when it is considered that whilst almost every part of England is more or less intersected with railways, Montgomeryshire—and, indeed, the whole of Central Wales—appears on *Bradshaw* as a blank in the railway system. This unfortunate position is, in a great measure, owing to the contentions and caprices of the two giant companies in connection with this important district; and there can be no doubt that, had the inhabitants of the district continued to rely upon the great companies for the introduction of the lines of railway the county requires, instead of the first sod having been cut, they would still have been in the same anomalous position they have so long occupied. Thanks, however, to the Llanidloes and Newtown Company, as the first to remove this stigma from the Principality; and the Oswestry and Newtown Company have nobly followed their example—having obtained an Act in last session, they are now taking steps to secure a link to Shrewsbury also. We need not remind either company on the advantages of a steady persistence in an independent course: the grand secret of the success of the Llanidloes and Newtown Company has been the determination of their Chairman, Mr. Whalley, to hold themselves aloof from either party, thus avoiding litigation, and a thousand other annoyances; and it is the adoption of this policy, and this alone, which placed that gentleman in the proud position he occupied on Wednesday—that of being the first to turn a railway sod in Central Wales. We understand the works will be of the most inexpensive character, the line being already contracted for at something under



5000 ft. per mile for a single line, the bridges and other necessary works being formed for a double line. The contractor at once proceeds with the works; and we trust that, in a very short time, the valleys of the Principality will resound with the shrill whistle of the promoter of civilisation. The line commences at the north end of Llanidloes, at an elevation sufficient for an extension into South Wales, and traverses a rich agricultural and mineral valley for twelve miles, terminating near the Dolver turnpike gate, Newtown. The steepest gradient is 1 in 132, and that only for a mile; the next steepest gradient is 1 in 220. The whole line is favourable, and presents no engineering difficulty, and is expected to yield about 7 per cent. on the outlay. Tenders for the execution of the works were received from seven contractors by the directors on Tuesday evening, and the board selected that of Mr. David Davies, a contractor for county works in Montgomeryshire.

#### THE IRON AND METAL TRADES OF SOUTH STAFFORDSHIRE.

[FROM OUR CORRESPONDENT IN BIRMINGHAM.]

Oct. 4.—There is nothing particular to notice this week in connection with the Iron Trade, beyond the fact that the operations of the Bank of England have not been without effect upon it. Notwithstanding all we hear of large orders, increased consumption, and the prospects of a great foreign demand, there has been an evident chill thrown over the commercial transactions of this district by the rapid and unexpected advances of the Bank. Discounts have advanced here in rather more than full proportion to those of London, and the money pressure is already beginning to be felt. The decision of the preliminary meeting last week has, no doubt, had the effect of encouraging purchases by the manufacturers; but although (so far as the resolutions of meetings can be binding) prices are fixed for the winter quarter, nevertheless the cause of doubt and restraint above noticed operates to prevent the merchants and manufacturers from purchasing more than for the requirements of the present time. There is certainly no great fear of over speculation with the present monetary screw in operation, and it is more than probable some furnaces which were on the eve of being blown in will not yet be set to work. The prices quoted last week are, however, firmly maintained; and unless they fall under some untoward event, which we have no reason to anticipate, there is no cause why they should not be maintained. The demand for Staffordshire iron for the American market continues brisk, and some large shipments are being prepared, and the same will apply to orders for rails for the Continent. For France, there are also orders reported for military and naval purposes, and the requirements of our Government for the same use are very considerable. Marine boilers, anchors, cannons, shot, and shells, are still in requisition, and the enormous demand for every species of munition of war would seem to indicate anything but a speedy termination to the conflict in the East.

In the Metal Markets generally there is no change. Copper, tin, and the other metals, remain firm, but without any probability of advancing. The General Hardware Trade of this town is inactive; and many of the Fancy Trades have received a check, owing to a falling off in the travellers' order-sheets during the past week.

In connection with the meetings held here since my last, may be noticed that of the Rheidal Union Mining Company, on Friday last, Mr. G. Spilsbury in the chair. The minutes of the previous meeting having been read and confirmed, the following statement of accounts was audited:—June 30, costs, 1984. 5s. 10d.; July 31, ditto, 1664. 8s. 9d.; Aug. 31, ditto, 1877. 6s. 4d.; total, 5522. 0s. 11d.—July 27, brought forward, 832. 6s. 8d.; March call, 492. 8s. 8d.; June, ditto, 612. 18s.; Walker, for land, 3012. 1s.; Sept. 28, balance forward, 562. 7s. 3d.; total, 5522. 0s. 11d. The report received from Mr. Spooner, from Aberystwith, for presentation to the shareholders, was considered highly satisfactory, as stating that the prospects of the mines are much improved since the last meeting, and that already considerable progress had been made in its development. The new ground lately opened above Nant-y-Glass, east and west of the late workings, towards the top of the hill, is turning out very well, and the ore now raised is much better in quality than any yet seen in this part of the mine, as well as considerable in quantity.

Mr. Thomas Pridoux, of Birmingham, has during the past week specified his patent (through Mr. George Shaw) for a new plough, for draining, and other similar purposes:—

This invention consists of a plough for draining and cutting channels for various purposes, constructed in the following manner:—The framing of the plough is supported on a pair of wheels; the framing carries at its front two vertical cutters, or coulters, which the inventor prefers to make of the depth of about 18 inches. Behind these two cutters, or coulters, two other cutters, or coulters, are situated, the last-mentioned cutters being of greater depth than the first-mentioned ones. The longer coulters, or cutters, deepen the cuts made by the short ones. The sick, or share, is situated at the bottom of the longer coulters, or cutters, and between them. As the plough advances, by horse or other power applied to a chain connected to the framing of the plough, the short cutters, or coulters, commence and the longer ones deepen two vertical cuts; the sick, or share, forming at the bottom of the two vertical cuts a horizontal one, which joining together the vertical cuts, completes a drain or channel. As the plough advances, the inclined face of the framing of the plough, passing under the loosened earth, raises it, and leaves a clear drain, or channel. When the loose earth has arrived at a little distance above the level of the ground, it falls on either side of the drain, or channel; or the loose earth may be deflected or thrown aside by an inclined plate, and delivered along the side of the channel. In order to facilitate the ascent of the loosened soil up the inclined face of the plough, the inventor sometimes makes a series of transverse slots in the incline, and places rollers underneath it, so that portions of the rollers shall project through the slots, and thereby facilitate the ascent of the soil up the incline. The plough is guided by a worm, engaging in a toothed wheel, which gives motion to a cross piece to which the shafts are attached.

#### IRON AND COAL TRADES OF YORKSHIRE AND DERBYSHIRE.

[FROM OUR CORRESPONDENT IN CHESTERFIELD.]

Oct. 4.—The preliminary meeting of the ironmasters in Staffordshire has resulted in their declaring the price of the ensuing quarter to be 92. per ton, although one of the leading ironmasters strongly advocated 97. 10s. as being justified by the present aspect of the iron trade. It appears an anomaly that Staffordshire, so long renowned for the superior quality of its ores, should now be producing iron at much lower prices than other iron-making districts, where the ores are inferior; and this can be accounted for only on the supposition that the quality of the iron made in Staffordshire is deteriorated by the introduction of inferior ores from neighbouring counties, or by the free admixture of cinder from puddling and mill-furnaces. It is well known that the Scotch ironmasters on the Tyne, Wear, and Tees are realising higher prices. These facts ought very materially to enhance the value of malleable iron made in South Yorkshire and Derbyshire, from the strong and pure mine pigs of those districts, and however Staffordshire ironmasters may decide, their decisions will not influence so much as they have hitherto done the determination of makers in other districts. We believe that the Yorkshire and Derbyshire houses experience no difficulty in obtaining 102. per ton for their bars; nor, with pig-iron, coal, and labour at their present value, can they realise any profit at lower prices.

The Coal Trade is increasing in activity weekly, and the continued steadiness of the demand keeps prices tolerably firm. The South Yorkshire Railway have opened their London depot near Easton-square, and as they have recently added to their property a large amount of rolling stock adapted especially for the coal trade, they will be able throughout the winter to pour their supplies direct into the metropolitan market. The attainment of this object has caused the shareholders to have a better hope of the prospects of the undertaking.

The managing committee of the Over Haddon Gold Mine are removing Drow's machine for amalgamating to the water-wheel at Pearson's mill, near Bradwell; and should the experiment on a large scale be successful, water-power will be arranged for on the site of the mine.

The Peak United Lead Mining Company will be in receipt of another dividend of 10s. per share on Tuesday next, that being the day appointed for the payment thereof to the shareholders. The meeting and payment of the dividend will take place in Sheffield on this occasion. The Peak United, with greatly improved prospects and increasing and regular dividends, is quoted at 84. 6s. per share, and yet we recently heard 102. per share refused, which incongruity is only accounted for by the fact of there being no sales of late, and the quotation represents former transactions, when much outlay was being made in this mine, and its value not so fully understood by distant shareholders. Mining in this locality is on a very solid foundation, and is now universally recognised as the chief temporal good in the north of Derbyshire. The reviving influence which it sheds on all trades and occupations is such that mining adventures have now no obstacles thrown in their way, but a degree of encouragement and good will manifested which clearly denote success.

The commercial condition of the country is improving, and the labouring classes appear to be better employed than they were a few months ago.

The demand for machinery is increasing, and various undertakings are being carried out for the increased development of trade.

Railway shares, except in a few favourite stocks, are dull, and little is doing in mining shares, except in the Derbyshire mines.

#### STOCK, MINING, AND RAILWAY SHARES IN IRELAND.

[FROM OUR CORRESPONDENT IN DUBLIN.]

Oct. 4.—Lower prices from London have brought the funds considerably down here, a fall of no less than 30s. having taken place in Consols, and the same in New 3 per Cents., for account. Shares have kept up wonderfully well, but business has been extremely limited, still what was done was of a good character; in fact, there was only one dealing for account during the entire week. Banks and railways have been very steady, but mines have fallen in every instance; General Mines, 10s.; Wicklow Copper, 10s.; and Mining Company of Ireland, 5s. The following are the latest prices:—Consols, 86½; New 3 per Cents., 88; Hibernian Bank, 33½; National Bank, 30; Royal Bank, 19½, ex. bonus and div.; City of Dublin Steam (504), 31½, ex. div.; Patriotic Insurance, 8½; General Mining Company, 2; Mining Company of Ireland, 13½; Wicklow Copper Mine, 27½; Belfast Junction Railway, 40½; Great Southern and Western, 50; Irish South-Eastern, 5½, ex. div.; Newry and Warrenpoint, 3½; Waterford and Limerick, 18½.

I perceive that the *Freeman's Journal* has followed up my remarks of a fortnight since, on the working of the Dublin Stock Exchange, in its last commercial article. The writer there has treated the subject in his usually able style, and I trust that the brokers will at once see the necessity of a change, and delay no longer in effecting a reformation where, I must say, it is so greatly needed, else they will find that half the business will pass to London brokers, and when once gone it will not be easy to get it back. The London brokers feel this themselves, and are daily increasing their Irish commissions, while business here is proportionately on the decrease. The brokers here should at once make an exertion to stop this, and I feel perfectly assured that the only way that business can be kept in this market is to give the public the same facilities for its transaction as can be had elsewhere. The perplexing system of dealing in stock *ex interest* should also be abolished, and dealings in funds would thus be rendered much more simple.

A highly respectable, influential, and most important meeting, was held last week in Castlebar. It was convened by the Earl of Lucan, to discuss the necessity of affording increased railway accommodation to the West of Ireland. The feeling of the meeting was very strong against the Midland Great Western Company, but mitigated in tone from that entertained at the Galway meeting, some time since. After some lengthened remarks from those most forward in the movement, the following resolutions were adopted:—

"That it is the opinion of this meeting, that the interests of all classes in this great country are much prejudiced from the want of railway accommodation; and that without a sufficient pecuniary guarantee, it is hopeless to expect that any company will be induced to construct a railway."

"That a line of railway, either from Athlone through Tean to the borders of this county, or through the county Roscommon, equally to the borders of this county, would afford great railway accommodation; and that this county is prepared to give a guarantee of 3½ per cent., or 500000. per mile, from either of those points to Castlebar, to whichever of those lines may first obtain the sanction of Parliament."

A highly satisfactory report and statement of accounts were presented to the proprietors of the Consumers' Gas Company, and a dividend of 4s. 3d. per share, or about 6 per cent., was declared. The report was one of interest, showing that nothing had been left undone to forward the prospects of the company, which were highly encouraging, and that, too, notwithstanding the commercial depression, high price of coal, and increased freights during the past six months. The report stated that great alterations had been made in the manufacturing process, the most important being the substitution of clay for iron in the retort-houses, and the adoption of a new system of carbonisation; and that all the works were in the highest state of efficiency. The Chairman, in his address, stated that while the liabilities had been lessened 700000., the revenue had been 200000. more. He dwelt at some length on the large increase of the company's business, and showed how their prospects were still likely to be more improved.

A few days since a strike took place among the ship-carpenters in the employment of Messrs. Robinson and Co., of Cork, in consequence, it is stated, of some English hands, not belonging to the body, having been taken into employment.

#### THE METAL TRADES AND INDUSTRIAL PROGRESS ON THE CONTINENT.

[FROM OUR PARIS CORRESPONDENT.]

Oct. 4.—Since my last, the general position of the iron trade in Paris has remained the same; but, in consequence of the majority of holders being unwilling to accept orders, except at advanced prices, the transactions have been decidedly fewer, although those who continue at former rates find no difficulty in obtaining plenty of business. In No. 1 Gartscherie there has been a fair amount of business done, and prices are well maintained. A new enterprise has recently been projected, which, according to Mons. Duvignan, is a plagiarism on his "Central Depot for Iron Manufacturers, &c.," but it is of a more public character. For my part, I do not see that it will materially interfere with Mons. Duvignan; but even if it did, I should have thought, from the manner in which the *Echo de la Metallurgie* is conducted, he would have been the last man in Paris to have complained of a plagiarism. Copper, tin, lead, and zinc remain the same. At St. Dizier, the animation which has for some time past been observed continues. At Charleroi, business is not so brisk. The *Journal* states that the transactions, which had for some weeks been considerable, have not during the past week been so numerous, although there were still several large bargains in negotiation. Prices remain unchanged. According to calculations recently made, there appears to be from 38 to 40 furnaces in blast in Belgium, which, if reckoned to produce 18 tons per day, would give 720 tons as the quantity of Belgian pig-iron daily produced. Of this quantity much finds its way into the French, Dutch, German, and American markets, whilst the remainder is manufactured in Belgium, and is largely exported in its manufactured state.

With a view to the prevention of accidents on railways, M. Reverchon proposes a novel description of brake, and method of application, which he describes in the last Number of the *Ami des Sciences*. His principle consists in applying the brake not only to one or two carriages of a long train, but, if necessary, to every one; in commencing such application with the last carriage, and continuing it successively to that next the engine; and in dispensing with brakemen, and supplying their place by a mechanical contrivance placed on the locomotive. The inventor complains that the commission, appointed some eight months since to receive and examine into the several projects which might be submitted to them for attaining that end, have not noticed his invention. The means proposed to be adopted for obtaining the wished-for result are—A voltaic pile is to be placed on the engine, under the control of the engine-driver or stoker, and connected by wires with an electro-magnet placed under each carriage, where there is also a wooden wedge suspended between the wheel and an iron buttress, fixed on the frame on which the carriage is built. This wedge is kept suspended by a lever, the end of which is the soft iron to be attracted by the electro-magnet; when the brakes are to be applied the opposite poles of the pile are connected, and the electro-magnet, by attracting the soft iron, releases the wedge, which falls by its own weight between the wheel and buttress. The fall of the wedge under the last carriage disengages the magnet, and leaves the apparatus under the carriage next before it, ready for being acted upon by the engine-driver. It is stated that by this method a train of 25 carriages could be stopped in 50 seconds. It is to be regretted that the commission has not responded to the inventor's communication; as every one, however unlikely his scheme may be to answer, is entitled to know what fault is found with it by those competent to judge the difficulties which would probably present themselves in its practical application; but as regards the present invention, I do not see any possibility of its becoming of practical utility, and I will not make such an assertion without giving my reasons for doing so. I agree with the inventor that the wedge is a most powerful mechanical contrivance, and for that very reason his invention would be comparatively useless, except in cases of extreme danger, and if applied, would not obviate the necessity for continuing the system of brake as at present employed, and also the same number of men to control them, for if the wedge falls by its own weight, and, consequently, is held tight in the proportion as the wheel attempts to turn, I would ask the inventor by what possible means could he remove the wedge, once applied, without backing the train? And as it is frequently necessary to apply the brake without wishing to bring the train to a stand still, as in descending a steep inclined plane, of

what service would his brake be in such an instance? If M. Reverchon can give a satisfactory answer to these questions, he may succeed, but if not he will never do so. As the case at present stands, I fear his chances of success are very small, but I should be glad to find that he can give such further particulars as may change my opinion.

#### MANUFACTURE OF WROUGHT-IRON CANNON.

[FROM A CORRESPONDENT.]

Recent experiments have been made at Woolwich upon a wrought-iron gun, made by Mr. Dundas, of the Paragon Works, North Britain, on a principle maintained by him to be the only practical method by which guns and mortars of large calibre, which would be sound and trustworthy, can be made in wrought-iron. The gun was of the size to carry a shot of the weight of 9 lbs., and constructed as follows:—Four bars of iron, about 1 inch thick, 6 inches broad, and the proper length of the gun, are put up together longitudinally into segments of a circle, which, if placed edge to edge, form the rough outline of the bore. The edges of these bars are radiated and accurately planed. The bars or staves are then hooped temporarily together as a cylinder, by means of two rings at the extremities, and turned on a lathe to a surface perfectly true and cylindrical. A series of iron rings, 3 inches broad, and 2 of an inch thick, carefully welded, are bored to a size slightly smaller than the barrel or cylinder, these, being afterwards expanded by heat, are one by one placed on the cylinder, and plunged into cold water. Instant contraction ensuing, the staves are compressed more powerfully than could be done by any artificial means, and no appearance of joint in the staves is perceptible. The exterior surface of the mass is again turned perfectly cylindrical, and a second series of rings placed in like manner over the first "breaking band." In a lathe the iron now assumes the exterior of a cannon, the turnings having been previously placed or forged on a centre ring. To bore the gun with great perfection is very simple, as the boring bar can be supported at both ends, and the breech end of the gun being, for a few inches, bored slightly conical, with a shoulder, into which fits a solid plug, introduced from the muzzle. The cannon is now complete. Tilted east-steel might be substituted for iron staves, while, by corrugating the cylinder to the extent of from one-eighth to one-sixteenth of an inch in depth, and turning these rings to fit these corrugations when shrunk, a great additional tenacity will be gained.

The proposition for the construction of cannon formed of four wrought-iron bars, 1 inch thick and five inches broad, placed longitudinally, edge to edge, radiated in segments, hooped together by a series of iron rings, expanded by heat, and compressed together by cooling, theoretically speaking, appears in principle to be extremely accurate; and, for argument's sake, we will admit that these rings in series may be graduated so as to give increased strength, weight, and thickness, where they are most wanted, at the breech of the gun, wherein combustion, explosion, or the greatest expansive force arises. Nevertheless, the almost insurmountable difficulty will arise in procuring for malleable ordnance dense and solid forgings throughout the entire mass or bulk which forms the cannon; and if this difficulty arises in kind in its relation to a 9-pounder gun, in how much greater degree will the objection preponderate when the manufacture of a 68-pounder cannon is under contemplation? The medium proposed for the formation of the bore, however, may be wrought-iron or tilted steel. The practical objection to cannons of the description now referred to applies to neither the substance, nor the position in which the bars are placed: that above relates to the laminated and multiplied thicknesses which the rings arranged in series individually present, each joining the other, but not jointed—each covering, but not incorporated; all being in masses, but not massed; each circumference mutually dependent the one upon the other, but not agglomerated. The rings in question are proposed to be made of flat bar-iron; consequently, each separate ring at every joint must necessarily be forged or welded together. As joints are multiplied after the same ratio, the liability of fracture certainly must be increased, just as the expansive forces invariably determine towards the weakest point. Vibration is also consequent upon the intermittent and interrupted communication of the rings. The contractile power of the bar of which the rings are made from the incandescent state is exerted longitudinally, which must be equally proportionate in the transverse direction. This same contractile power, although it closes with almost an ineluctable force the longitudinal jointings of the internal bars of the gun itself, it "opens joint" between each ring transversely throughout the entire fabric of the gun. These cylindrical rings are now proposed to be placed upon the bars, and, in technical phrase, are "shot on hot." If we could suppose that so many rings and thicknesses could possibly be heated to exactly the same temperature, even if the material were alike, and cooled under exactly similar circumstances, we could conclude that a perfect uniformity of structure might exist. Equal temperatures, under the influence of external and extrinsic circumstances, can only be approximated, and never actually attained under the abstract and intrinsic meaning of the terms. The contractile forces, therefore, of every individual ring must be diverse and discordant, exerting quite unequal power in tightening or relaxing at so many different points the fibrous construction of the gun itself, which by no possibility, under the laminated series, can ever form that perfect, dense, consolidated, and practicable mass which, in homogeneity of principle and substance, should characterise the structural formation of the effective and sufficient piece of ordnance. By numerous jointings, the risk and liabilities of fracture must certainly be multiplied. Unequal contractions imply unequal strength, and the unequal and uncertain expansive force of gunpowder, applied under explosion, will assuredly determine towards the weakest and the softest spot; and although it is only by the exercise of that power that we can detect and determine where that spot may be, under these circumstances it will detect itself. In short, strength and resistance may be multiplied *ad infinitum*, but, under the proposition now before us, weight, cost, and labour will be thereby increased. A certain weight is necessarily required to propel the shot, which must necessarily be increased in proportion to the weight of the shot itself. Gravity is the point *d'appui* of all propelling forces, and cannon itself, by lightness and elaborated manipulation, may be deprived of half its efficiency, if these combined principles are carried to too great an extent. Malleable iron, under every and any circumstance, is far more costly than cast-iron. Its rigidity and toughness may present the elements of light construction and portability; yet still we may, perhaps, find that the same amount of lightness can only be gained but by loss of power and efficiency; nevertheless, and at the same time taking into account the incoherent and uncertain staple of the medium under consideration, the costliness of malleable iron, in comparison with cast, it may eventually be discovered that any advantages which may be acquired as resulting from its use, will be far more than compensated for by the sacrifice of many other and essential properties, so that, in the end, they will be found not worth the price at which they are purchased.

**PEAT CHARCOAL.**—The Admiralty Board, among other matters, have announced their intention of receiving tenders for the conveyance of 84 tons of peat charcoal to Scutari. The identification of the use of this material in the Government service is very important, as some evidence of the acknowledgment that SCIENCE, probably, has accomplished something further, which may tend to ameliorate the privations and exigencies, or to administer towards the necessities, of those who, at the present time, may be suffering from disease, or otherwise, in the abode of fever and malignant disorder. As a disinfectant, the properties of charcoal are scarcely to be too highly estimated; and when the great rise in price is considered, which recent events have brought about, in the absence or costliness of a sufficient supply of wood, other materials, equally applicable to the purpose, must necessarily be resorted to. The peat bogs of Ireland, as well as those at Dartmoor and elsewhere, are quite sufficient to produce an almost inexhaustible supply of this commodity, which, under Mr. Gwynne's process of solidification, has been carried out so advantageously.

**AUSTRALIAN GOLD STATISTICS.**—The colony of Victoria, in 1852, with about 60,000 diggers, produced, from two of the principal fields, gold equal in value to 14,000,0000.; in 1853, with about 80,000 diggers, and about six gold fields, 11,000,0000.; in 1854, with 100,000 diggers, and sixteen gold fields, 8,300,0000.; and this year, with upwards of 100,000 diggers, and more than twenty gold fields, the estimated product is about 7,000,0000.; and this is obtained by applying machinery to the re-working the refuse of the old gold fields.

**FOUR MEN KILLED BY A ROPE BREAKING.**—At Messrs. Simpson and Young's Moss Colliery, Stanhill, near Blackburn, just as a tub was being lowered, one of the fields of the rope coiled round the vertical shaft; the tub, consequently, descended with rather a sudden jerk, which snapped the rope close to the fastening, and four unfortunate men were thrown to the bottom, a depth of 35 yards. We understand there is a guard to prevent the rope from slipping, but in this instance the men had neglected to apply it.



## ON THE GOLD-BEARING ROCKS OF THE WORLD.

[RECEIVED FROM THE BRITISH ASSOCIATION.]

With the exception of the papers read at their meetings, it is very evident a radical change has taken place in the administration of this institution; otherwise the British Association would have been degenerated from the extensive object for which it was originally established—viz., "the advancement of science"—to that of a place for promoting the private objects of a few individuals, at the expense of others. As I shall have to enter into this subject at another opportunity, with a view, if possible, to prevent the name of Science being rendered as equivalent to some jobbing schemes, I shall defer until then any further remarks on the conduct of certain sections. In the meantime, I beg the favour of your inserting an abstract of my paper "On the Gold-bearing Rocks," to remove the impression of my having stated "that gold was principally obtained from quartz," as represented in the *Athenaeum* of last week. It is not enough to allow papers to be hurried over, to suit the purpose of those who take upon themselves to conduct such proceedings, but to suffer them also to make erroneous and contradictory mutilated abstracts would be unworthy of an independent member of a scientific body.—EVAN HOPKINS: *Thurloe-square, Oct. 3.*

Evan Hopkins, Esq., F.G.S., read a paper "On the Gold-bearing Rocks of the World, and their Superficial Metallic Productions." The following is an abstract:—The gold-bearing rocks belong entirely to the primary crystalline series, noticed in the preceding paper, and not to the fossiliferous or sedimentary rocks; therefore gold is never found in the latter, excepting by the intrusion of the former from below. The less the primary series of rocks are covered with compact sedimentary rocks, the more favourable they are to develop and liberate their metallic contents. It is the superficial disintegration and final decomposition of the edges of the meridional bands of granite, gneiss, porphyry, schists, and quartz, that produce the great auriferous deposits of South and North America, Australia, Africa, India, and Siberia, as illustrated in the accompanying sections, to which I beg reference for explanatory details. These superficial disintegrating actions of the auriferous crystalline rock are confined to space, not any given period in the history of the sedimentary rocks. On the contrary, they are incessantly going on, and only varying in their amount and intensity according to local physical conditions. The richest variety of the auriferous rocks retain their normal meridional structure, as seen in the Brazil, New Granada, California, Siberia, India, Africa, Australia. (See sections.) As these primary crystalline series of rocks are universal, and are seen in every part of the world, when not covered by sedimentary rocks, it follows as a natural consequence that gold is also detected in variable quantities in all primary districts, but the larger accumulations or superficial productions of gold are only found in the ferruginous talcose schists, &c., where the meridional cleavage is well developed, as shown in the sections of the Andes, California, and Australia, to which I beg particular reference. Therefore, to predict the existence of gold in any given region or district in quantities worthy of commercial consideration, it becomes necessary to ascertain the following conditions:—1. The primary series uncovered by sedimentary rocks, and subject to disintegration and decomposition. 2. That they exhibit more or less their normal, vertical, and meridional structure. 3. That the crystalline bands predominate in ferruginous argillaceous schists, with talcose and quartzose beds, as shown in the accompanying sections.

Some of the old and altered sedimentary rocks in contact with the primary base, and intersected by quartz veins, impregnated with pyrites, but the schists below, are sometimes slightly impregnated with gold; but such instances are extremely rare, and the quantity of gold thus obtained is insignificant. The gold quartz veins enclosed in the primary base (described in the Australian section) are only impregnated with visible gold near the surface, and are never found sufficiently productive to pay for working many fathoms in depth. The only auriferous veins worthy of notice, and which are found to pay the cost of the ordinary operations of mining to great depths, are the auriferous pyrites, such as the Morro Velho, in the primary clay-slate of the Brazil and Marmato, and in the auriferous porphyry in New Granada.

The great productions of gold for the use of the world are principally obtained from the superficial deposits already noticed. The reason why it is generally supposed that quartz is the matrix which produces the gold is because the precious metal, after precipitation, adheres more strongly to quartz than to the other auriferous rocks. Although the quartzose bands produce occasionally larger masses of gold, yet the quantity bears a very small proportion to that which is obtained from the ferruginous and talcose schists. The richest auriferous bands are so subject, on being exposed to the air or moisture, to rapid decomposition, as to render it almost impossible to preserve the specimens.

Hence the cause why the gold is found so free from the matrix *in situ*. What are called deep workings in the auriferous districts must not be considered as sinking into the hard rock below, but simply sinking through the ferruginous consolidated gravel, down to the edges of the primary series, where the greatest amount of metal is always found. (See sections.) The ordinary gold fields only require water and manual labour to extract the metal; and, generally speaking, such gold deposits, if covered with multitudes of diggers, soon become exhausted, and leave behind them nothing but a barren waste and a scene of desolation, such as many of the old gold fields of Australia already present. The colony of Victoria, in 1852, with about 60,000 diggers, produced from two of the principal gold fields for that year equal in value to 14,000,000*l.*; 1853, with about 80,000 diggers, and about six gold fields, 11,500,000*l.*; 1854, with about 100,000 diggers, and sixteen gold fields, about 8,300,000*l.*; and this year, with upwards of 100,000 diggers, and more than twenty gold fields in different parts of the colony, I estimate the product, in round numbers, at about 7,500,000*l.*, and this obtained by applying machinery to re-wash the refuse of the old gold fields; and I expect that, by means of more liberal terms, and improved modes of washing, the produce of gold from the colony of Victoria will not fall below the value of 6,000,000*l.* for some years, but probably not obtained in the aggregate at a remunerative rate to the individual diggers.

## ON THE MERIDIONAL AND SYMMETRICAL STRUCTURE OF THE GLOBE—ITS SUPERFICIAL CHANGES, AND THE POLARITY OF ALL TERRESTRIAL OPERATIONS.—No. II.

[Read at the British Association meeting, Glasgow.]

BY EVAN HOPKINS, C.E., F.G.S.

On entering into the subject of our enquiry, we must necessarily investigate the whole of the terrestrial sphere as we now find it, with its aerial, aqueous, and semi-aqueous covering, permeated with that universal power which we call polarity, or magnetism. We must then watch carefully their combined operations, the changes and sequence which actually belong to them, and follow their actual consequences. Let us endeavour to keep ourselves strictly within the boundary of demonstration, taking nothing for granted, but confining our investigations to the existing laws of operations, and to the accumulated mass of unequivocal evidence lying before us, without in any way altering their characteristic conditions and effects.

In taking a general view of our globe, we find that it rotates on an axis, the two ends of which are called the south and north poles, and that it is not only enveloped in an atmosphere, but also enclosed in an invisible and subtle power, which we find universally present, and which is incapable of being removed by human means. The existence of this power is ordinarily known by the indications of the magnetic needles, and among what are commonly called magnetic meridians, which converge to the respective poles.

All mariners who have traversed the ocean from the Antarctic to the Arctic regions, are necessarily familiar with the fact, that the south ends of the magnetic needles drop, and, if suspended, tend to become vertical, with some slight local variations, are retained and preserved, more or less, in the meridian, until they approach the north pole, when the north ends begin to drop, and, if suspended, will become vertical when in close proximity to the pole.

These facts are so well known as not to require further comment. They have been further proved experimentally, showing that such is the linear direction and general character of the curves from pole to pole on a globe, under the influence of that power called magnetism. We find by experiments that a magnetic force cannot exist without a continued action; consequently the magnetic needles, like the wind vane, are merely the indicators of the perpetual existence of the polar stream, and that this stream is constantly moving from the south pole to the north, and, according to experiment and analogy, completing the circle of activity through the medium of the axis.

These meridional lines of active forces, traced from pole to pole, are not confined to the ocean, but are also detected all over the dry land, in the

air above and in the waters below, and in the deepest recesses of the earth beneath; in a word, we are always completely enveloped in it; and this important fact is capable at all times of being put to the test in every part of the world, and, therefore, beyond the power of contradiction.

The actual existence of this great surrounding power being then proved as a matter of fact, together with its moving stream from the south pole to the north, and that it permeates all terrestrial substances, it is quite evident that it must have a very important influence on the changes and polar arrangements of all substances within the sphere of its control, and which I shall now describe in detail.

**THE POLAR STRUCTURE OF THE PRIMARY ROCKS.**—The first striking and general fact we detect is the tendency of the crystals that compose what we denominate primary rocks to form in a linear direction, and in compounds of crystalline plates, more or less, in a vertical position, with a similar meridional disposition as the magnetic needles, thus indicating a connecting cause. The diagrams of the two hemispheres showed the general polarity of the structure of the primary rocks in a very striking manner. Various contortions are detected in many districts, showing a want of conformity to the general polar structure; but these deviations, when viewed on a large scale, are very insignificant, and are, comparatively speaking, not so much as the contortions produced by small knots in the direction of the fibres and medullary rays in the trunk of a large tree. The polar structure of the primary rocks, when viewed as a whole, is much more symmetrical than the meridional lines formed by the magnetic needles. We find that the greatest discordances, both in the polarity of the structure of the primary rocks and the direction of the magnetic needles, exist in the northern region. From the south to the north temperate region the respective polar phenomena are remarkably uniform, as described in the diagrams.

**AUSTRALIA.**—The phenomenon of the polarity of the primary structure is so striking in this part of the world, that the most superficial observer cannot help noticing it. Whenever the crystalline rocks, slates, &c., are found uncovered and exposed to view, they are found on edge, bearing north and south, and continuing in that direction to an indefinite extent, without any deviation for many hundreds of miles, until hidden by layers of loam, sand, and gravel.

In Mr. Howitt's recent work on Victoria, page 71, vol. II., he observes: "It would seem as though some subterranean force acted in a north and south direction, and left the rocks standing edgewise." "They are always true to this one direction, and are nearly as good as a compass where they prevail; you may trace them for 20 or 30 miles at a stretch, and, no doubt, they extend right across the colony."

## WEEKLY LIST OF NEW PATENTS.

## APPLICATIONS FOR PATENTS, AND PROTECTION ALLOWED.

T. Dadds: Heating furnaces with coal or other gases.—F. Cresswell: Heating, puddling, and refining iron slags.—T. S. Pringle: Marine steam-boiler furnaces and flues.—A. V. Newton: Gas for illumination.—W. Melish: Boiler furnaces, and prevention of smoke.—J. T. Chance and H. Adcock: Casting articles of slag produced by the smelting of iron and other ores.—E. S. V. Motive-power.—H. E. Flynn: Prevention of railway accidents.—G. H. Ingham: Self-acting signal post and apparatus.—J. G. Martien: Roasting, calcining, oxidizing, and subliming metallic and mineral substances.—J. H. Tuck: Dredging and excavating machinery.—P. A. Balestrini: Insulating wires for electric telegraphs.—E. Grenet, jun.: Electro-magnetic apparatus for motive-power.—T. Allan: Correcting deviation of the compass needle.—A. E. L. Belford: Governor for steam-engines.—J. G. Martien: Manufacture of iron and steel.—Y. Scully and B. J. Heywood: Manufacture of articles subject to corrosion.—D. Zenner: Washing and separating pulverised ores and matters.—A. Ford: Solutions of caoutchouc, gutta serena, &c.—T. Forsyth: Treatment of scrap-iron.—W. H. Smith: Bolts, latches, and locks.—J. T. Caird: Steam-engines.—F. H. Smith: Breaks for carriages with poles.—W. Warren: Vices.

## WEEKLY LIST OF PATENTS SEALED.

W. James, Crosby-hall Chambers—Manufacture of screw-bolts.  
S. Hjorth, Copenhagen—Magnetoelectric battery, and machine.  
I. Vernon, West Bromwich—Slide-valves of steam engines.  
H. Woodhouse, Stafford—Construction of crossing for the permanent way of rail-  
J. C. Pollen, Aix-la-Chapelle—Manufacture of iron wheels.  
J. Corcor, Coventry—Apparatus for communication between the engine drivers and guards of railway trains.  
C. F. Thomas, Massachusetts, U.S.—Boilers for steam-engines.  
W. H. Tooth, Pilgrim-street, Kennington-lane—Construction of floating vessels, and in the machinery and steam signals connected therewith, and in the application thereof to other purposes.  
W. E. Gill, Totnes, and H. B. Sheridan, Parson's-green—Treating fish for oil, and utilising the products of such process.  
J. Crowley, Sheffield—Manufacture of malleable cast-iron.

**SPINNING-ROLLERS.**—Mr. R. A. Brooman, the patent agent, of Fleet-street, has (for a correspondent) patented an improvement in rollers used in spinning. In the spinning of cotton, wool, and other fibrous materials, rollers covered with cloth and leather are employed. After being used some time, these rollers become useless, from the leather losing its polish and lustre. This invention consists in maintaining the leather in its desired state of polish by coating it with albumen or other such matter dissolved in water.

**CHARCOAL.**—Mr. T. Saddleir, of Mulla Tullamore, has invented an apparatus and method of manufacturing charcoal, which can also be applied to cooking and other purposes, the object of which is to char the peat, &c., by rapid, instead of by slow, combustion: the boiler is set or fixed between the two kilns, which are separated from each other by a thin division in the middle of the bottom of the boiler, and as they are lighted alternately, at comparatively short intervals, one half of the boiler is constantly acted on by heat. By this arrangement the charring of the peat, &c., can be carried on simultaneously with boiling water and generating steam.

**SELF-ACTING RAILWAY BREAK.**—An interesting trial of Major Robb's self-acting break, which, so far as it went, was attended with considerable success, took place on the South-Western Railway on Saturday last. The trial train consisted of 21 carriages, engine, and tender, and was upwards of 175 yards in length—the rate of travelling, when the first stoppage was made at Farnborough, being 35 miles per hour, and the train was brought to a stand in about half its length. The next trial was at the Andover-road station, down an incline, where the gradient is 1 in 100, and the speed, when the steam was shut off, 45 miles per hour. The train was on this occasion brought to a stand in 600 yards. The last trial was at Winchester, when the speed was 55 miles per hour, and the incline (downwards) 1 in 150. The steam was shut off at the last bridge, and the train brought to a stand within a distance of 500 yards, being less than one-third of the distance an ordinary train of the same length would require to bring it to a stand.

**EXPLOSION OF A BOILER AT KIBBLESWORTH COLLIERY.**—It very seldom occurs that the immediate cause of explosions, which too frequently take place in the boilers of steam-engines, are ever arrived at. In this instance the reverse is the case, for it has been discovered, through the investigation of the Inspector of Mines (Mr. Matthias Dunn) that the feed valves belonging to two of the boilers had been open the same time. Proof was further given, that two hours previous to the explosion all the five boilers were in a perfect state; therefore, no ordinary boiling could have diminished the water to such a dangerous extent. There was, therefore, no room to doubt that, in consequence of the two valves being open, the water in the boiler which exploded had been pressed or driven into the neighbouring boiler, and, in consequence, the former had been heated to redness; whilst it was also obvious that the engineer was at the time in the act of turning on water. The Inspector of Mines has, therefore, directed—1. Not to attempt to pull out the fire, because whilst that is doing the heat will be more intense, but to set open the fire door, and deaden the fire with green coal, if damp, so much the better. 2. To close the communication with the other boiler. And 3. To set open the discharge steam valves, and not to introduce any water until all is cooled down. If the proprietors of collieries and manufactories would cause these simple rules to be circulated amongst their operatives, it would tend to warn them what to do in so critical a moment, instead of being left to the natural but dangerous expedient of introducing water. It is to be regretted that on this occasion the loss of the life of one unfortunate young man was the result.

**TRAFFIC RETURNS.**—The traffic returns of railways in the United Kingdom, published for the week ending Sept. 29, amounted to 440,548*l.*, and for the corresponding week of 1854 to 397,537*l.*, showing an increase of 43,011*l.* The gross receipts of the eight railways having their termini in the metropolis amounted for the week ending as above to 261,837*l.*, and for the corresponding week of last year to 180,530*l.*, showing an increase of 21,307*l.*

The increase on the Eastern Counties Railway amounted to 1184*l.*; on the Great Northern to 2406*l.*; on the Great Western to 4774*l.*; on the London and North-Western to 3733*l.*; on the London, Brighton, and South Coast to 1521*l.*; on the London and South-Western to 2011*l.*; and on the South-Eastern to 5757*l.*; total, 21,426*l.* But from this must be deducted 1194*l.*, the decrease on the London and Blackwall, leaving the increase, as above, 21,307*l.*

The receipts on the other lines in the United Kingdom amounted to 238,711*l.*, and for the corresponding period of 1854 to 217,007*l.*, showing an increase of 21,704*l.* In the receipts on those lines, which, added to the increase on the metropolis lines, makes the total increase 43,011*l.*, as compared with the corresponding week of 1854.

**LONDON AND NORTH-WESTERN RAILWAY.**—A very encouraging statement is made as to the improved position of this company. It is stated that the increased earnings during the first three months of the present half-year are about 30,000*l.*, obtained even with a reduced daily mileage of 1000 miles, and causing a saving, with other arrangements, of no less than 10,000*l.* upon the quarter, making 40,000*l.* gain, as compared with the like period of 1854, equal to 15*l.* per cent. of increased dividend from the ordinary capital for the entire year. The active development of local traffic, and improved arrangements in progress, will, it is anticipated, should the income, allowing for the season of the year, approach the same ratio, have a material effect upon the dividend.

The South Wales Railway Company will receive tenders until Oct. 25 for the execution of the works of a branch railway, 1½ mile in length, from their main line to the East Butte Dock and the New Tidal Dock at Cardiff.

The Holmbush Mining Company have convened a special general meeting for Thursday next, for the purpose of confirming the forfeiture of 135 shares for non-payment of calls; and also, if it should be deemed necessary, to elect two directors in the place of Messrs. W. Chippendale and Robert Bradley, and to elect an auditor in the place of Mr. Charles Burle.

A meeting of shareholders in the West Mariposa Mining Company is called for Tuesday, to take measures to compel the directors to wind-up the concern.

## MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

**TAMAR SILVER-LEAD MINES.**—At the last special meeting the shareholders determined to abandon the working of the north mines, and Messrs. Davis, Son, and Vosper, of Tavistock, sold the whole of the materials on Tuesday last. The lots included a very superior 50-in. single acting steam pumping engine, 9 ft. stroke in cylinder, and 8-in. shaft, with a 10-ton boiler; also an excellent 18-inch cylinder steam engine, with fly-wheel and cage complete, and 6-ton boiler. We will give the total amount realised by the sale in our next week's Journal.

**BIRCH ALLER SILVER-LEAD MINE.**—This mine is situate in the parish of Bridford, Devon, and will be submitted for sale by auction, by Messrs. Ware and Son, of Exeter, on Monday, the 15th inst. The sale takes place in consequence of the default of a former purchaser, and in addition to the set there is a 30-ft. water-wheel, and a quantity of mining materials, the whole of which will be put up in one lot, and must be sold to the highest bidder.

**HENNOCK SILVER-LEAD MINE.**—Messrs. Ware and Son will sell by auction, on Wednesday, the 17th inst., this set, situate in the parish of Hennock, Devon. The lot will include a 38-ft. water-wheel, 4 ft. 6 in. breast, also a water-wheel 18 feet diameter, 4 feet breast, together with a quantity of mining materials. As this property is also put up in consequence of a default at a former sale, it will be sold without reserve.

**NORTH TAMAR CONSOLS SILVER-LEAD MINE.**—At a special general meeting, recently held, the shareholders determined to abandon this adventure, and Mr. James White, of Union-court, Old Broad-street, will sell the property by auction at the Mart, opposite the Bank of England, on the 16th inst. The set is situate in the parish of Beerferris, Devon, and is very extensive, being a mile in length on the course of the lodes, and contains several very promising lodes within its limits, one of which it is stated has been sufficiently worked and tried to justify the decided opinions offered in the reports given by Mr. Evan Hopkins and other competent inspectors. The shaft has been sunk 44 fms., and three levels driven north and south. In addition to the set, which is held from the Earl of Mount Edgcumbe, at 1-15th due, the lot includes a new 24-in. cylinder steam pumping engine, together with a large quantity of mining materials.

**WEST LONDON IRON WORKS.**—Mr. Marsh, of Charlotte-row, Mansion House, will submit for sale, by auction, at the Mart, on Thursday next, this property, consisting of business premises erected within the last three years, also the good will of a lucrative business, with nearly new plant, costly machinery, &c. The works are situated on the Great Western and London and North-Western, adjoining the works, which are situated at Latimer-road, Notting Hill.

**PENDEEN CONSOLS.**—An engine has been set to work on this mine, under the direction of Messrs. Hocking and Loom, engineers, to the perfect satisfaction of those concerned. Pendeen Consols is situated about half a mile east of the Levant Mine, and joins Boscawen Downs to the south, where its great north and south lode, or guide, runs right through the Pendeen set, just at the junction of the granite with the killas. The mine has been working for the last two years, and everything has been carried on in a miner-like manner, under the management of Mr. Greenwood.

**CARN VIVIAN MINE.**—The recent important discovery has caused some excitement amongst mine speculators. The set is held under lease from Lord Vivian, of Glynn, for a term of 21 years, at 1-15th due. The lode for 15 fathoms has been very productive, and rocks of nearly solid lead ore, about 1 cwt., have been raised throughout in the adit level. A water-wheel, now in the course of erection, will be ready within a month, which, with the advantage of a powerful stream of water directly adjoining, will enable them to prosecute the mine to a considerable depth.

**GREAT WHEAL BUSY UNITED (LIMITED).**—Capt. J. B. Pascoe, in reply to our correspondent, "Z," in last week's Journal, states that Capt. Wm. Martin reported in July last upon Great Wheal Busy, which now embraces Wheal Busy and Wheal David to the east, South Hallenbeagle to the west, Old Hallenbeagle to the north-west and north, or New Hallenbeagle to the north. Capt. Martin, in his report upon Wheal Busy and the Hallenbeagle Mines, states that the adit level of Wheal Busy is about 10 fms. below the surface, and is extended many hundreds of fms. on the different lodes and transverse levels; it has intersected many lodes, some of which have been of a high mineral character, with rich veins of both tin and copper. The 90 is very productive throughout, and at Chynoweth's shaft there is a splendid course of ore, worth from 80*l.* to 100*l.* per fm. The 80 has also gone through a great length of very valuable ore ground. The western engine-shaft is down to the 80, which has passed through many large bunches of ore; 36 men were working on this lode, which is 12 ft. wide, and yielding at least 30 tons of ore per fm., worth 8*l.* per ton, (say) 240*l.* per fm. Old Hallenbeagle Mine is adjoining to Wheal Busy on the west, having all these lodes running into it. This mine is very extensive, and comprises all the lodes running through Scorrier, Trevelyan, North Down, and other mines. The bottom is 60 fms. below the adit, and the level is extended to a great length. In this level there is a course of copper ore more than 50 fms. in length, yielding upwards of 4 tons per fm., worth from 8*l.* to 10*l.* per ton. At North Hallenbeagle Mine there are immense quantities of copper ore, particularly in the levels proceeding east. Capt. Martin has no doubt but that, if the mines are thoroughly drained, and placed in good working order, they would yield upwards of 1000 tons of copper ore per month, at 5*l.* per ton, and 20 tons of tin, at 50*l.* per ton, which, after deducting the cost of labour, charges, cartage, and sundries, would leave a nett profit of 2000*l.* per month, or 24,000*l.* per annum for 20 years; and, further, he believes the quantity of ore to be inexhaustible. Capt. Martin further states that he had the management of a mine in the vicinity of Wheal Busy and the Hallenbeagle Mines, some years since, wherein he realised a profit of 30,032*l.* per annum continuously, on an average, on one lode only; and that the area of this mine was not one-tenth part of the contents of Wheal Busy and the Hallenbeagle Mines, adding that no one need consider these mines under the denomination of a speculation, but they should be regarded as a substantial investment.

**WHEAL GILMAR.**—This is a tin mine, situate in Gwinneer, adjoining West Wheal Providence, and divided into 1024 shares, 6*l.* 12s. 6d. paid. The shaft is sunk to the 30. They have a fine course of tin in the adit and the 20. In the 30 they have cut the same lodes as in the 20: the lodes consist of small lodes, or branches, carrying rich crystal tin. They have now sufficient stuff at surface to keep the stamps going for 18 months or two years, without further discoveries. It is expected that calls will be made to work the mine and purchase the additional necessary machinery to operate upon the tin broken and in reserve, none having been sold. The company have recently purchased steam stamps and drawing machine, which were included in the last account. It was expected that in about a month the stamps would be at work, when they would commence making returns, and the agents have no doubt of making good profits. Wheal Gilmar, for the depth, is richer than West Wheal Providence, and the shares rose from 9*l.* to 65*l.*, under precisely similar circumstances. West Wheal Providence has divided nearly 30,000*l.*, and is still paying dividends. The price of Wheal Gilmar shares are from 6*l.* to 7*l.*, and it appears to be a favourable adventure.

**SORTBRIDGE CONSOLS.**—Capt. Robert Northey, late from Cuba, having been requested by some shareholders in Sortbridge Consols, residing in London, to inspect and report the result of their private information, we readily give it insertion, as we believe such a report, issuing from a disinterested practical agent, will afford great satisfaction to the many shareholders. "Sir: In accordance with your request, I have inspected Sortbridge Consols, and as you are quite conversant with the situation and locality, I shall not enter into a detailed explanation on that subject, but shall confine myself to a few remarks connected with the underground workings and future prospects. The bottom, or 40 fm. level, west of new engine-shaft, is extended about 3 fms.—lode very large. The part that is carried in driving the end is from 4 to 5 ft. wide, with a leader from 1 to 1½ ft. wide, and of a very good quality. On the south part of the lode, which is underlying south about 18 inches in a fathom, the north or remainder part has more capel, with very rich copper pyrites thickly disseminated throughout the whole breadth. The stratum is a beautiful light kind, and of a softish character, quite congenial for very large deposits of copper ore, which, in my opinion will be the result. East of the shaft level is extended about 30 fms., which has passed through a lode varying from 3 to 12 feet wide, of a splendid nature, and very good quality, of which the greater part will be taken away at a very low tribute. The end driving east is of the same character as the western one, described above. The 30 fm. level is driven through a splendid lode for about 30 fms., which will produce 8 tons to the fathom in several places, of which a great deal is in reserve. In the 20 fm. level a counter lode is intersected in two places by cross-cuts from the main lode north, or rather driven north, which is in the footwall; a richer yellow ore lode for 1 foot wide, I never saw, and it forms a junction, going east, with the main lode. I have no doubt but that the tributaries working on it will get 100*l.* each man. This lode is going down in whole ground, north of all your present workings, in a splendid stratum of ground, which, according to present prospects, will turn out very productive. The captain was very kind, and showed me everything he possibly could. Great praise is due to him for the able and efficient manner that he has conducted the mining operations of the company. In conclusion, I have no hesitation in saying, judging from the ore ground standing, and from present appearances, that you have tens of thousands of pounds worth of ore now standing; and judging from the appearance of the lode, exclusive of the south lodes, which will intersect the present one at a reasonable depth, together with the beautiful stratum of ground that they are imbedded in, you have a splendid property, and long and lasting dividends will be the result.—ROBERT NORTHEY: Oct. 4.

**SALE OF MINING SHARES.**—Mr. John Robert Pike submitted for public competition, by auction, at Garraway's, on Thursday, the following shares:—50 Grenville, 2 East Basset, 10 Alfred Consols, 1 Condurrow, 100 Great Martha, 10 Carnarvon, 2 Clowance, 50 South Crenver, 5 Great Fortune, 50 Lady Bertha, 2 Halamanning, 100 North Rosewarne, 50 Pein-an-drea, 5 Great Alfred, 100 Great Vor, 1 Bolling Well, 25 North Buller, 15 North Busy, 2 Leland Consols, 1 West Seton, 1 Rosewarne, 20 Tincroft, 10 Hender, 50 South Zion, 10 Sortbridge Consols. The attendance of buyers was rather scanty, and the bidding, except some few mines in favour, without animation. The purchasers were chiefly connected with mining interests, and include Messrs. Tredinnah, Samuel, Batten, Lelcan, Balcombe, Thomas, and Capt. Debridge. Subjoined are the prices which the lots sold realised:—50 Wheal Grenville, 40*l.*; 1 Condurrow, 142*l.*; 2 East Basset, 43*l.*; 10 Alfred Consols, 11*l.* to 12*l.*; 100 Great Martha, 3*l.* to 4*l.*; 50 Lady Bertha, 35*l.* to 36*l.*; 10 Carnarvon, 10*l.*; 2 Clowance, 75*l.*; 50 South Crenver, 27*l.* to 30*l.*; 5 Great Wheal Fortune, 9*l.* to 10*l.*; 2 Halamanning, 21*l.*; 100 North Rosewarne, 13*l.* to 13*l.* 6d.; 50 Pein-an-drea, 3*l.* to 2*l.* 15s.; 5 Great Alfred, 15*l.* to 15*l.* 17s. 6d.; 100 Great Vor (upon which the purchaser could receive a dividend of 1*l.* per share), 15*l.* to 15*l.* 9d.; 1 Bolling Well (after smart competition), 17*l.* 15s.; 15 North Busy, 5*l.* to 5*l.* 5s.; 2 Leland Consols, 12*l.*; 10 Sortbridge Consols, 7*l.* to 7*l.* 1s.; 50 South Zion, 4*l.* to 4*l.* 6s.; 10 Wheal Hender, 4*l.* to 5*l.*; 20 Tincroft, 3*l.* to 3*l.* 7s. 6d.; 1 Rosewarne, after a spirited contest, was knocked down to Mr. Samuel for 250*l.*; and 1 West Seton, to Mr. Thomas, for 510*l.*; 25 North Buller were withdrawn for want of offers.

In the Bankruptcy Court, on Wednesday, Mr. Thomas Harvey passed his examination, and obtained a second-class certificate. Mr. M. H. Francis also passed the last examination, and obtained his certificate.

At the Bankruptcy Court, yesterday, Mr. Peter Stainsby attended before Mr. Commissioner Evans, for the purpose of passing his last examination. Mr. Linklater, on behalf of the bankrupt, applied for a further adjournment, on the ground that the accounts were not complete, but trusted the Court would grant the allowance to the bankrupt from May 24 to the present time. Mr. Charles Burle, jun., one of the assignees, opposed the granting of the allowance, upon the ground that the bankrupt's wife was in possession of an income of upwards of 500*l.* a year secured to her, and the proceedings of the bankrupt were of such a nature that might induce his Honour to refuse any allowance. The learned Commissioner eventually adjourned the meeting until December 6, when the question of allowance would be considered. Mr. Flew, of the firm of Lawrence and Co., appeared for the creditors' assignees.



**CHAPT. JOHN EVANS** (late Purser and Clerk of the Tamar Mines) begs to inform the mining public, that he is **WANTING** a SITUATION, either as **MANAGING AGENT** or **ACCOUNTANT**. He has had considerable experience in mining in all its different departments, being regularly engaged in mining from his youth, and filling different situations, sixteen years of which in the above mines, where the late Committee of Investigation spoke in the highest terms of his services. Satisfactory references can be produced.

Cleave and Cottage, Beerston, Tavistock, Oct. 2, 1855.

**FLETCHER AND CO., RAILWAY, MINING, INSURANCE,**

AND GENERAL SHAREBROKERS, 163, WOODHOUSE LANE, LEEDS.

Gold Mining Shares wanted.

**MINING INVESTMENT, &c.**—The large amount of capital

invested, and the great want of facility for conducting the sale and purchase

of stock, has induced us to OFFER OUR SERVICES to capitalists and others, being

in daily communication with practical men in all parts of the country, who have

the means of obtaining the most correct information upon the principal mines in Devon,

Cornwall, and Wales. There can be no doubt that mining securities afford to the

capitalist a safe and profitable source of investment, many of which, by a careful

selection, will ensure a return of from 15 to 20 per cent. for many years to come; and

of a progressive character hold a promise of increased value, and of becoming an

easy and dividend property.

Messrs. FULLER and CO., 51, THREADNEEDLE STREET, LONDON, respectfully

TENDER THEIR SERVICES in TRANSACTIONS any BUSINESS, or obtaining

any information, connected with MINING, BANKING, or RAILWAY SECURITIES; and any orders confided to their care will receive the best attention.

Office Hours from Ten till Five.

**LEAD MINE NEAR TYNDRUM.—TO BE LET ON LEASE,**

for such a term as may be agreed on, the LEAD on the LANDS of CONISTIE,

near Tyndrum, in the parish of Killen, and county of Perth, about twelve miles from

the north end of Loch Lomond, from whence the ore may be shipped to any port in

the kingdom. The richness of the vein and quality of the lead are well known. A

stream of water, suitable for machinery and other purposes, runs close to the veins;

and an excellent road has been lately formed through the lands, expressly for the

purpose of working the mine. Apply to Mr. ALEX. GALLOWAY, land agent, Glasgow;

or to ROBERT GRAY, of Glen Orchard, Glasgow.

**MINERALOGY.—KING'S COLLEGE, LONDON.**

Prof. TENNANT, F.R.S., will give a COURSE OF LECTURES ON MINERALOGY,

with a view to facilitate the Study of Geology, and of the Application of

Mineral Substances in the Arts. The lectures will be illustrated by an extensive

collection of specimens, and commenced on Friday Morning, the 5th October, at Nine

o'clock; they will be continued on each succeeding Wednesday and Friday at the

same hour. R. W. JELF, D.D., Principal.

**WEST CORNWALL MINING DISTRICT.—NOW READY,**

A GEOLOGICAL MAP of about 250 MINES between TRURO and PEN-

ZANCE. Plain, 21s.; Coloured, 26s.; Mounted, 30s.; Varnished, 31s. 6d.; delivered

in London carriage free.—To be had of Mr. R. SYMONS, land surveyor, Quay, Truro.

**LIMITED LIABILITY ACT.—CENTRAL LONDON OFFICES.**

PROMOTERS OF COMPANIES under this Act, or others REQUIRING

CENTRAL OFFICES in LONDON, or an experienced RESPONSIBLE AGENT

to actively attend to their interests, are invited to communicate with Mr. JOHN

SEWELL, Assoc. Inst. C.E. (Author of various Scientific and other Papers),

13, LOMBARD STREET, LONDON.

**THE COLONIAL GOLD COMPANY.—NOTICE OF CALL.**

Notice is hereby given, that, at a Meeting of the Board of Directors of the

Colonial Gold Company, held this day, it was resolved that a CALL of TWO SHIL-

LINGS AND SIXPENCE per share be made upon the respective shareholders, payable

on or before Wednesday, the 24th day of October inst., to the company's bankers,

Messrs. Barnett, Hoare, Barnett, and Co., 24, Lombard Street, London.

The Transfer-books of the company will be closed on the 10th October, and will be

re-opened on Thursday, the 25th day of October inst., after which no transfer of

shares can take place until payment of the above call has been made.

By order of the Board, W. A. HART, Secy.

5, Queen-street-place, Upper Thames-street, London, Oct. 3, 1855.

**WEST MARIPOSA MINING COMPANY.—SHAREHOLDERS**

desirous of winding-up this company, and dividing the remaining assets by a

process of law, are requested to MEET at the North and South American Coffee

House, Threadneedle-street, on Wednesday, the 9th inst., at Two o'clock precisely, as

this course is considered desirable by many large shareholders who have ascertained

that the funds of the company have been lent to a private individual, and who have

been refused any proper accounts by the directors. H. GUEDELLA.

Oct. 2, 1855.

**INNEY CONSOLS COPPER AND SILVER-LEAD MINING**

COMPANY (SOUTH PETERWIN, CORNWALL).—AT THE FOURTH HALF-

YEARLY GENERAL MEETING of the shareholders, held at 26, Moorgate-street,

in the City of London, on Thursday, the 4th October inst.,

JOSEPH CARY, Esq., in the chair,

It was resolved unanimously:—

That the reports of Mr. Patterson, Captains Jenkin, Spargo, and Rogers, be re-

ceived; and that the accounts now read be adopted.

That a call of 3s. per share be made on all the shares of the company (6144), and

that the same be payable to the pursuer in 14 days from the 4th October inst.

That, in pursuance of Art. 11 of the Rules and Regulations of the Company, as

amended, all shares upon which the 1st and 2d calls of 5s. each per share shall not

be paid, or a satisfactory arrangement entered into with the committee, within one

month from the date of this meeting, are hereby declared to be absolutely forfeited.

That the following gentlemen (Joseph Cary, Esq., and J. C. Ruding, Esq.) be re-

-elected the committee of management for the ensuing six months; and that Mr.

Thomas Lee be appointed pursuer for the next six months.

That the thanks of this meeting be presented to the Chairman and the committee

of management, to Mr. Thomas Lee (the pursuer), and Mr. Patterson, for their able

management of the affairs of the company. THOMAS LEE, Purser.

26, Moorgate-street, London, Oct. 4, 1855.

**DREWSTEIGTON MINING AND LIMESTONE COMPANY,**

SITUATE IN THE

PARISH OF DREWSTEIGTON, IN THE COUNTY OF DEVON.

Established and conducted on the "COST-BOOK PRINCIPLE."

In 30,000 shares, of 10s. each.—No further calls to be made, or liabilities incurred.

A Copy of the Report of the Committee, presented on the 13th inst., may be had at

the offices of the company.

Applications for the remaining shares to be addressed to Mr. JAMES PHILLIPS,

managing director, 31, Bush-lane, Cannon-street.

**GENERAL COOPERAGE COMPANY.—HAMILTON'S**

PATENT (LIMITED).

Notice is hereby given, that NO FURTHER APPLICATIONS FOR SHARES in this

company can be RECEIVED after Tuesday next, the 9th inst.

By order of the Directors, JOS. HODGE, Secy.

Offices, New Broad-street, London, Oct. 3, 1855.

**STATIONARY STEAM-ENGINES OF THE BEST QUALITY.**

From 1 to 50-horse power, fitted with VARIABLE EXPANSION GEAR. These

engines, which have been designed to combine great simplicity of parts with the

utmost economy of action, are supplied with or without boilers, at the lowest possi-

ble rates; and erected, if required, in any part of the kingdom. General boiler and

tank work carefully executed upon advantageous terms.—Apply to Messrs. WILLIAM

YOUNG and Co., engineers, Barnstaple.

**IMPORTANT TO LEAD SMELTERS.—THE INVENTOR IS PRE-**

PARING TO CONSTRUCT, upon liberal terms, a DOUBLE REVERBERATORY

FURNACE, capable of making a SAVING of 50 per cent. FUEL over that of the best

constructed furnaces in Europe; at the same time guaranteeing the general loss in

smelting not to exceed 5 per cent.

The inventor, after 20 years' experience, both in England and various parts of the

Continent, has discovered the method, in the regular course of smelting, and without

any extra cost, of separating antimony from a certain class of silvery-lead ore,

thereby rendering the lead free of all impurities, and, at the same time, the antimony

in a marketable state.—All applications to be addressed to the inventor, Mr.

ALFRED JENKIN, Esq., near Bakewell, Derbyshire. One of the furnaces will be at

work by the end of the present month. A descriptive notice of the invention ap-

peared in the Mining Journal of July 14.

**212 MILNERS' HOLDFAST AND FIRE-RESISTING SAFES**

(non-conducting and vapourising), with all their improvements, under

their Quadruple Patents of 1840-51-54 and 1855, including their GUNPOWDER

PROOF SOLID LOCK AND DOOR (without which no safe is secure). THE

STRONGEST, BEST, AND CHEAPEST SAFEGUARDS EXTANT.

MILNERS' PHENIX (212) SAFE WORKS, LIVERPOOL, the most complete

and extensive in the world. Show Rooms, 6 and 8, Lord-street, Liverpool. London

Depot, 47A, Moorgate-street, City. Circulars free by post.

**NOTICE TO INVENTORS AND PATENTEES.—THE OFFICES**

FOR PROCURING PATENTS are REMOVED to No. 32, ESSEX STREET,

STRAUD, LONDON, where all information (British and foreign) may be obtained

gratis.—AVERY, RILLARD, GARDINER, and Co., patent agents and negotiators.

**HOLDERS OF RAILWAY OR MINING SHARES AND**

DEBENTURES can be ACCOMMODATED with LOANS, in small or large

sums, up to £30,000, for long or short periods, at 4 per cent. per annum.—Apply to

BARKER and Co., 3, Union-court, Old Broad-street.

**NO CHARGE FOR READING.—DEACON'S COFFEE HOUSE,**

3, WALBROOK, MANNSON HOUSE, CITY.—WM. HOWELL, Proprietor,

and ADVERTISING AGENT for all the Provincial, Scotch, Irish, Welsh, American,

Cape, Australian, and East and West Indian Papers.

Agent for Galignani's Messenger.

**ENGINEERS, MECHANISTS, ARTISTS, BUILDERS, CHE-**

MISTS, MUSICIANS, and all SCIENTIFIC Professionals and Amateurs, will

find at the ROYAL POLYTECHNIC every Novelty, in Peace or War, likely to in-

terest Inventors, Capitalists, or Students. Models on the largest scale; LECTURES

by the ablest professors; EXHIBITIONS constantly varied, and most instructive and

amusing. Open 12 hours daily.—Admission to the whole, ONE SHILLING. Liberal

arrangements entered into with conductors of Railway Excursions, heads of Schools,

Factories, and large employers of Skilled Labour; and Special Illustrations given for

Operators and Scholars. Inventors and Manufacturers of Unique Articles of Utility

or Beauty are invited to judge for themselves of the advantage of having their Designs

and Products displayed at the POLYTECHNIC, the most frequented and highly pa-

tronised institution of the kind in Europe, and one invariably visited by all persons

and celebrities arriving in London. Particulars on application, personally or by

letter, to J. H. PARRER, Esq., Managing Director.

**WANTED, by a MINING AGENT, a SITUATION** at home or

abroad, either permanent or otherwise, on commission or at a fixed salary.

He is fully conversant with the different modes of working mines, both in England

and Scotland, with the proving of estates, the getting up of leases, and every branch

in connection with the letting, opening, and working of collieries.—Apply, by letter,

stating particulars, to "J. M.," Mining Journal office, No. 26, Fleet-street, London.

N.B. References given.

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